US Highway 93 • Somers to Whitefish West

FINAL
Environmental Impact Statement
and FINAL
Section 4(f) Statement

VOLUME I

US Department of Transportation
Federal Highway Administration

FHWA-MT-EIS-94-01-F

US 93 (Somers to Whitefish West)
Milepost 104.3 to 133.0
Flathead County, Montana

Final Environmental Impact Statement and Final Section 4(f) Statement

Submitted Pursuant to 42 USC 4332(2)(c);
49 USC 303; MEPA 2-3-104 and 75-1-101;
and Executive Order 11990

US Department of Transportation
Federal Highway Administration

Cooperating Agencies:
US Army Corps of Engineers
US Fish and Wildlife Service
US Environmental Protection Agency
US Soil Conservation Service
Flathead County
Montana Department of Transportation
Montana Department of Health and Environmental Science
Montana Department of Fish, Wildlife and Parks

9/9/94
Date
Marvin Dye, Director (Montana Department of Transportation)

9/12/94
Date
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Abstract: The proposed project would improve 46.18 kilometers (28.7 miles) of US 93 from Somers to west of Whitefish, Montana. The primary purpose and need for improvements to US 93 is to reduce congestion on the existing facility, provide for planned growth and development, improve safety, provide for improved intermodal facility connections and provide for enhanced scenic values. Three build alternatives, in addition to the no-build alternative, were analyzed for the rural segments of the corridor. In addition, a bypass of the Kalispell area and six alternate downtown routes in Whitefish were evaluated. Adverse impacts include impacts to **five** historic properties, displacement of **eight** residences, **six businesses and two outbuildings**, wetland impact of **2.4** hectares (**5.95** acres), noise, visual, and land use impacts. The majority of these impacts would be effectively mitigated by proposed measures, but certain unavoidable adverse impacts would remain.

US 93 (Somers to West of Whitefish)

Flathead County, Montana

Final

Environmental Impact Statement

Volume I

Prepared by:
Carter & Burgess, Inc.

September 1994

Federal Highway Administration

Summary

Description of Proposed Action

This action would widen and reconstruct 46.18 kilometers (28.7 miles) of US Highway 93 between Somers, Montana to west of Whitefish, Montana in Flathead County. Milepost limits are 104.3 to 133. Included in the action is a four-lane bypass on new location around the western edge of Kalispell, Montana and improvements to Spokane Street, Second Street and Baker Avenue in Whitefish. Improvements to the existing road include widening from two to four or five lanes, adding 2.44 to 3.05 meter (eight- to ten-foot) shoulders, and intersection improvements. The action also includes enhancements to pedestrian and bicycle facilities and to the visual character of the area.

Major Actions Proposed by Other Agencies

- Big Mountain Expansion is a project planned by Winter Sports, Inc. to expand both the winter and summer activities and facilities available at Big Mountain Resort, located north of Whitefish. A Draft EIS was prepared in April 1993 by the US Forest Service. These expansion plans will result in increased use of US 93 to access Big Mountain. The 2015 traffic projections which are used as the basis for all analysis (such as traffic operations, air quality or noise) in this Final EIS assume the worst case or highest traffic volumes (for Alternatives C and D) used in the Draft EIS for the Big Mountain Expansion of Summer and Winter Activities, April 1993.

- Improvements to Big Mountain Road have been planned and developed and are documented in an Environmental Assessment.

- Replacement of the Burlington Northern Overpass in Whitefish. This proposed project will include the construction of a new bridge and corresponding approaches to the existing roadway. The proposed project will improve the existing roadway and overpass to provide for a 30 mph design speed. **This project is under construction.**

- The Cooperative Planning Coalition **just completed a project to update** the Flathead County Master Plan. This effort will define desired future land use for Flathead County. The different location and design alternatives for US 93 will be more or less compatible with these future land use goals. **The Master Plan has not yet been adopted by the Flathead County Commissioners.**

- A Preliminary Draft EIS has been prepared defining the impacts of various improvements to US 93 between Polson and Evaro. These improvements will **serve projected** traffic on US 93 in the Somers to Whitefish area, even though a distance of 69.19 kilometers (43 miles) separates the two projects. The Year 2015 traffic projections being used in the Final EIS for the Somers to Whitefish section are high enough to include any increased traffic resulting from the Evaro to Polson improvements.

Summary of Alternatives Considered

Alternatives considered for this action vary by segment. For most of the rural parts of the corridor, including Somers to Kalispell, Kalispell to Whitefish and west of Whitefish, three alternatives are under consideration.

All three alternatives basically follow the existing US 93 corridor. They differ in their lane designs: Alternative A(MEDIAN) is a four-lane facility with a median, Alternative A(TURN-LANE) is a five-lane facility that includes a center turning lane and Alternative A(COMBO) includes some features of each of the other two, depending on the location.

Alternative A(COMBO) is the preferred alternative.

Within the Kalispell metropolitan area, a bypass alternative is being considered, also with two basic lane designs called Alternative B(MEDIAN) and B(TURN-LANE). In Kalispell, the bypass would be implemented along with improvements to US 93 through town.

Alternative B has been recommended as the preferred alternative. This includes a four-lane without a median south of US 2 and right-of-way for a depressed median north of US 2.

In the Whitefish area, six alternatives are being considered. Alternative A(FOUR-LANE) includes an increase in capacity in the same location as existing US 93. There are four alternatives which split traffic onto a one-way pair system on Second/Spokane and Second/Baker. These are called Alternative C(COUPLET-1), C(COUPLET-2), C(COUPLET-3) and C(COUPLET-4). The sixth alternative, C(OFF-SET), also splits traffic between Baker and Spokane, but two-directional traffic is allowed.

Alternative C(COUPLET-3) has been recommended as the preferred alternative.

The no-build alternative would retain the highway in its current location with no increase in capacity.

Major Environmental Impacts

The major environmental impacts discussed in this document are:

- Traffic operations and safety will improve with the build alternatives.
- **Five** residences, **three** businesses **and an outbuilding** will be displaced **along US 93 and three residences, three businesses and a barn will be displaced along the Kalispell bypass**.
- Land will be required from one Section 4(f) property **(the Ashley Creek Recreation Trail)**.
- **Approximately 2.4** hectares (**5.95** acres) of wetlands will be filled.
- Noise increases will occur.
- PM_{10} emissions in the Kalispell and Whitefish non-attainment areas will decrease with **the preferred alternative in Kalispell and will increase in Whitefish, but these impacts will be mitigated.**
- Portions of floodplains along 12 streams will be filled.
- Adverse effects to **five** historic properties will occur **(the West Second Street properties in Whitefish, Kalispell-Somers Railroad Spur, Kalispell Courthouse District, McCormack Farm and the Altenburg Farm).**

Areas of Controversy

The US 93 project is the subject of public controversy. Areas of controversy include:

- The compatibility of highway improvements with future land use and visual quality goals.
- Delay in implementation of an improved highway due to increased cost or additional right-of-way acquisition or design.
- Responsiveness of enhanced highway improvements to fiscal constraints.

Major Unresolved Issues

There are no major unresolved issues.

Other Federal Actions Required

Other required federal actions include the following:

- Section 404 (of the Clean Water Act) permit from the US Army Corps of Engineers for filling in wetlands or streams.
- Compliance with Executive Orders 11988 (floodplain management) and 11990 (wetland protection) to be included in the Final EIS **(this has been done)**.
- Section 106 Findings of No Effect or Determinations of No Adverse Effect concurred in by the Advisory Council on Historic Preservation or an executed Memorandum of Agreement for any adversely impacted historic or archaeological properties eligible for listing on the National Register of Historic Places **(this has been done)**.
- Approval for floodplain encroachments from the Federal Emergency Management Agency (FEMA).
- Transportation conformity for air quality **(this has been done)**.

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Chapter 1.0
Purpose of and Need for Action

Chapter One

Purpose of and Need for Action

Chapter 1.0: Purpose of and Need for Action

Changes in text between this document and the Draft EIS are in bold and underlined.

1.1 Background and Authority

US 93 is a north-south principal arterial that extends along the western portion of the State of Montana. It is on the **proposed National Highway System**. The segment of US 93 that is covered by this Environmental Impact Statement (EIS) is a 46.18-kilometer (28.7-mile) segment from Somers to west of Whitefish (Figure 1-1). Milepost limits are 104.3 to 133 (exclusive of transition areas). The urban areas that lie within these project limits are the City of Kalispell and the City of Whitefish. US 93 serves as a major traffic corridor between the City of Missoula, the region's largest city and the Kalispell, Whitefish and Columbia Falls triangle. In addition, this segment of the highway heavily serves tourist traffic that is destined for Glacier National Park and the Flathead Lake area in addition to the various cities, resulting in a higher than average percentage of recreational vehicles. Other heavy users of the highway include the logging industry with vehicles that exceed a 18.3-meter (60-foot) wheelbase, smaller trucks serving local commerce and agriculture needs (including farm machinery) and typical local commuters.

The portion of US 93 between the junction of MT 82 and the Kalispell city limits was built at various times (Figure 1-2). The southerly 8.85 kilometers (5.5 miles) was built in 1961 with an overlay in 1983. The remaining 3.22 kilometers (2.0 miles) (north to Kalispell) were constructed in 1928 with improvements in 1949, 1961 and 1973. The rural section north of Kalispell was also constructed in two projects. The first 9.17 kilometers (5.7 miles) was built in 1957 with improvements in 1960. The other 2.57 kilometers (1.6 miles) was built in 1960 and improved in 1981. The Stillwater Bridge located in the northerly rural section was constructed in 1933 with modifications in 1957. (The remainder of the 46.18 kilometers (28.7 miles) includes sections within Kalispell, within Whitefish and west of Whitefish.) Improvements were made to improve safety concerns and **improve designs that did not meet current standards**. The frequency of access points and no provision for speed change lanes at a majority of intersections and driveways contribute to the higher than average state accident rates for similar two-lane highways in Montana for intersection and intersection-related accidents.

In addition to the construction of the highway during different years, the existing cross-sections differ (and in many locations, are **not consistent with current standards**). More detail about the existing facility and its deficiencies is found in Section 1.10.

Two Environmental Assessments (EAs)/Findings of No Significant Impact (FONSI) were prepared for a portion of the above US 93 project: US 93 Somers to Kalispell (October 1991) and US 93 Kalispell to Whitefish (February 1988). Design plans were prepared, acquisition of rights-of-way and utility relocation activities had been initiated for the Kalispell to Whitefish project.

During 1989 through 1992, a substantial amount of public controversy was generated about these two projects. The basis for the controversy was:

- One element of the population was supportive of the MDT proposal of a five-lane cross-section, which provided full movement access to side properties.

- A second element of the population felt that a five-lane non-controlled access highway will encourage strip development and degrade visual quality and will not be as safe as a divided highway. There were also concerns that the EA did not adequately document social, economic and environmental impacts.

Somers to Whitefish
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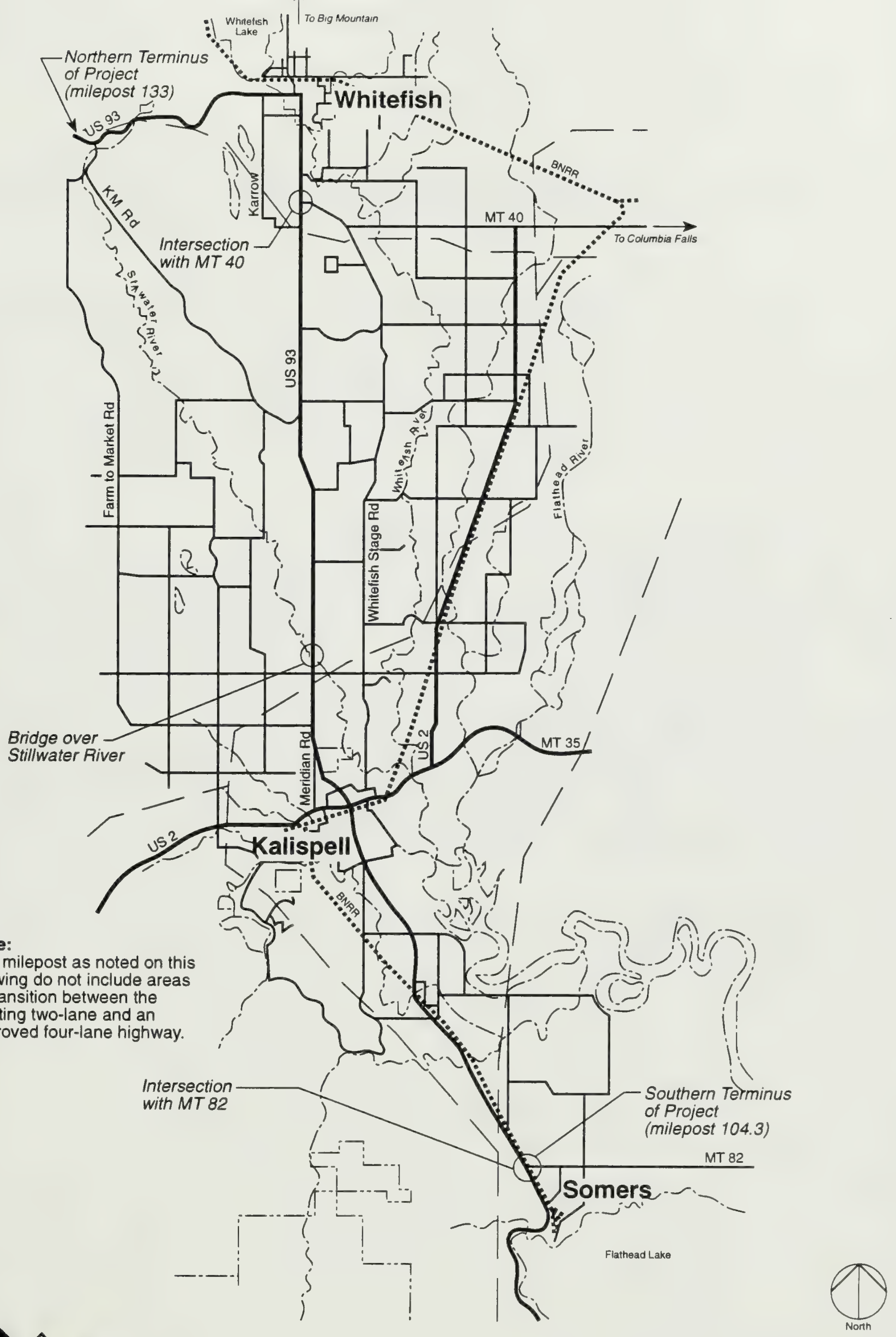
Figure 1-1
Regional Map



Note:
The milepost as noted on this drawing do not include areas of transition between the existing two-lane and an improved four-lane highway.

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Figure 1-2

US 93 Corridor Study Area

In July of 1992, in response to this public concern, Section 352 of the Department of Transportation and Related Agencies Appropriations Act, 1993, Public Law 102-388 was passed which dictated that a feasibility study of design alternatives on US 93 from Somers to Whitefish be undertaken. The feasibility study is to address the cost, safety, aesthetics and land use planning impacts of each design alternative.

As a result of public controversy about these projects, and to respond to the provisions of Public Law 102-388, a decision was made by the Montana Department of Transportation and Federal Highway Administration to combine the previous two projects into one project and to prepare an EIS for a combined Somers to Whitefish project. The basis for this decision is the need to more comprehensively address the social, economic and environmental impacts associated with the various alternatives for improving US 93.

Included in the overall project are bypasses of Kalispell and Whitefish and improvements to US 93 in the section west of Whitefish to Milepost 133.

1.2 Overview of Purpose and Need

The primary purpose and need for improvements to US 93 is to reduce congestion on the existing facility, provide for planned growth and development, improve safety, provide for improved intermodal facility connections and provide for enhanced scenic values.

US 93 currently operates at a level of service (LOS) of D or E in many locations. This occurs during peak time periods during the summer tourist season. As shown on Figure 1-3, LOS D is characterized by restricted movements, queues and delays. LOS E involves delay to all motorists. Much of the 46.18 kilometers (28.7 miles) of US 93 is also designated as a no-passing zone and the high percentage of large trucks in some parts of the area tends to exacerbate the no-passing conditions. LOS conditions are projected to worsen noticeably by the year 2015, with LOS of E and F anticipated, resulting in significant delays to the traveling public. In addition to delays along US 93, vehicles entering the highway will find it nearly impossible to make a left turn movement unless the intersection is signalized.

The accident rate on US 93 (between Somers and west of Whitefish) is higher than the average State of Montana accident rate for similar-type highways in 26 locations. Accidents are significantly higher in the urban areas and in the areas where there are multiple access points.

Thus, the primary purpose and need for the proposed project is to:

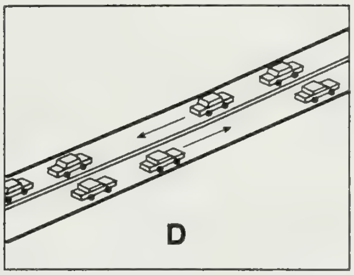
- More efficiently move people and goods by reducing congestion and improving mobility.
- Improve overall safety conditions on US 93.

Secondary benefits which are anticipated to occur as a result of improvements to US 93 are:

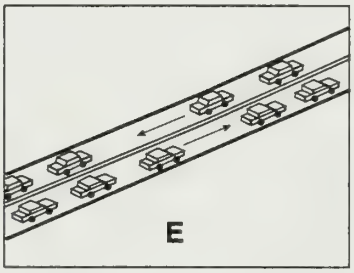
- Provide support to Flathead County economic development.
- Enhance and support the Flathead Valley visual quality. This is particularly important because of the function of the Valley as a gateway to Glacier National Park.
- Accommodate travel demands associated with Flathead County population and employment growth.

LOS	Roadway Segments
A	Free flow, low traffic density
B	Minimum delay, stable traffic flow.
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, preventing excessive backups
E	Actual capacity of the roadway involves delay to all motorists due to congestion.
F	Forced flow with demand volumes greater than capacity resulting in complete congestion

Two Lanes

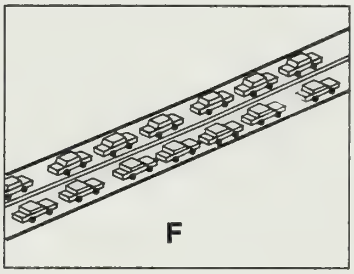


Existing LOS (south of MT 82 and west of Whitefish)



Existing LOS (north of MT 82 to Whitefish)

Likely LOS in Year 2015 no build (Somers to south of Ball's Crossing)



Likely LOS in Year 2015 no-build (north of Reserve to Whitefish)

Note: All LOS analyses assume summer daily traffic volumes

Figure 1-3
Level of Service Definition

- Provide support to modal interrelationships (including pedestrian and bicycle circulation).
- Correct existing US 93 deficiencies.

These are defined in more detail in the following pages.

1.3 Capacity of US 93

The inadequacy of US 93 to carry existing traffic volumes at an acceptable level of service was re-stated as a problem numerous times during the scoping process for the project. Factors that contribute to this inadequacy are:

- Existing and forecasted traffic volumes.
- Inability of drivers to pass more slowly moving vehicles (no passing zones occur along more than 50 percent of the corridor).
- High percentage of commercial motor vehicles and recreational vehicles.
- Diverse mix of drivers.
- Large number of driveway access points.
- Inability to access the highway because of a constant stream of traffic.
- Weather conditions.

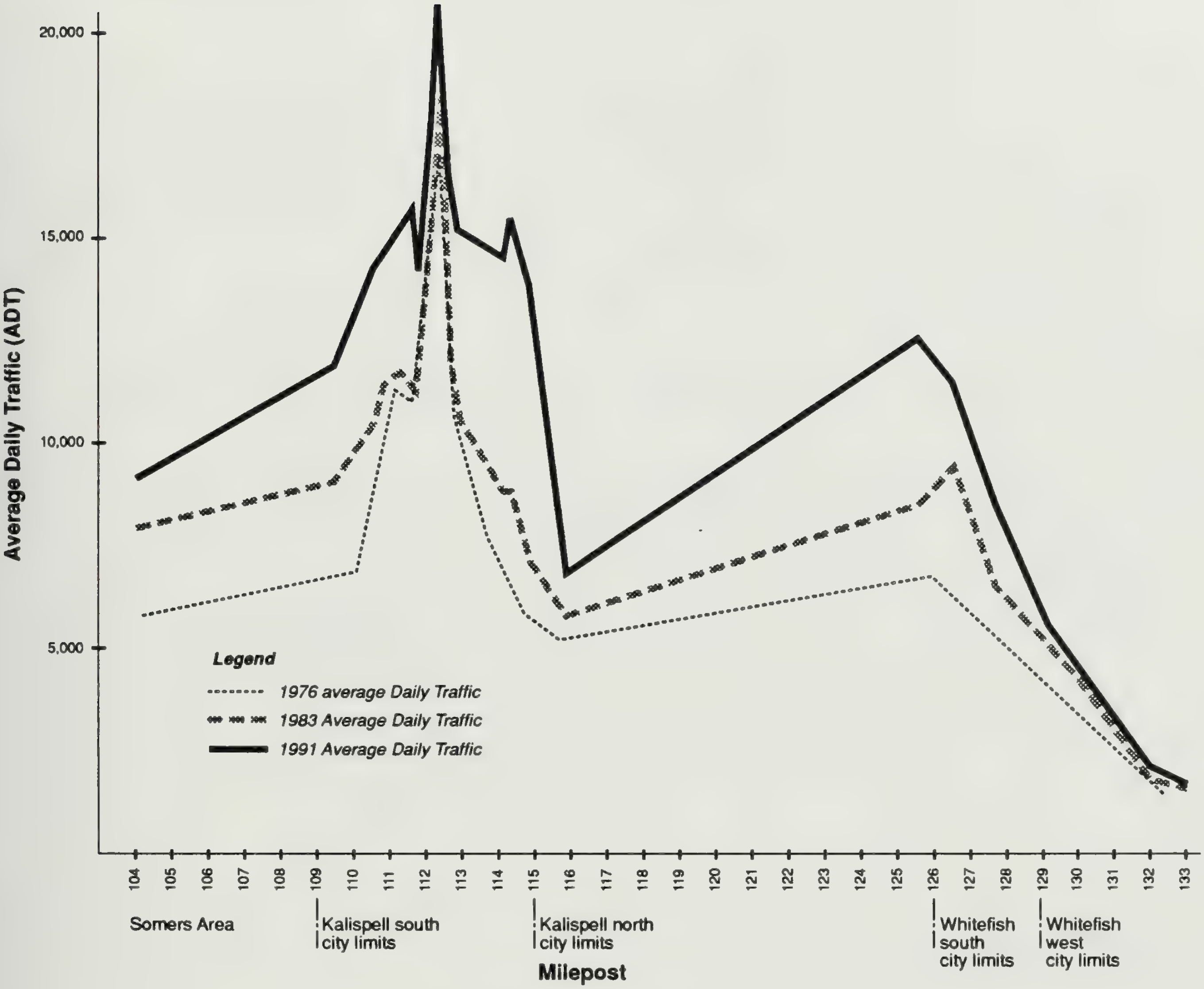
1.3.1 Existing and Projected Traffic Volumes

Figure 1-4 shows historical and existing traffic volumes at various locations in the study area. Generally, volumes in the southern part of the study area have grown between 15 and 30 percent over the last eight years (1983 to 1991). Volumes in the northern part of the study area have grown at a faster rate (30 to 90 percent). For comparison purposes, volumes from 1976 were also noted on this graph. Traffic growth since 1976 has been even more dramatic.

Traffic in the study area increases dramatically during the summer tourist season (generally June through August). During these periods, traffic increases by approximately twenty percent over a typical off-peak day.

Patterns of travel in the study area were surveyed at two different times in 1993 (off-peak and summer tourist season). Some of the findings of these surveys were:

- The peak period along US 93 begins approximately between 7:00 and 8:00 a.m. along the corridor, ranging about four to five percent of the average daily traffic. During the summer months traffic continues to steadily grow to about six to seven percent of the average daily traffic and remains steady until 5:00 p.m. Between 5:00 and 6:00 p.m. traffic peaks to nine to ten percent of the annual average daily traffic and substantially decreases at 7:00 p.m. to one to two percent of the annual average daily traffic.
- Large commercial motor vehicle percentages range from 8 to 13 percent within the study corridor.



Note: Traffic volumes shown are for total ADT. Summer ADT is higher than those shown on this figure.

Figure 1-4

Historical and Existing Traffic Volumes by Location

- Summer daily traffic volumes range from 2,800 vpd (west of Whitefish) to 13,600 vpd (south of Kalispell) for the rural segments. Within the urban limits, summer daily traffic volumes range between 20,000 vpd and 45,000 vpd.

Year 2015 traffic volumes for the US 93 corridor were **forecasted** using the Quick Response System (QRS) II traffic model. QRS II was used because it is the standard transportation modeling program used in the state of Montana. This model takes information about current travel patterns and existing and future socioeconomic data (population levels and distribution, numbers of housing units, household size and household income and employee types, levels and distribution) to predict trip generation based on land use. Model results are tested for current day conditions against known traffic count data. The model then **forecasted** future travel for the Year 2015 and distributes traffic on the existing study area roads.

Projected Year 2015 traffic volumes (assuming no improvements are made to US 93) are shown on Figure 1-5.

Analysis of existing and future volumes has been done to determine the level of congestion that exists now and what will likely be the level of congestion in the future, assuming no improvements are made to US 93. The analysis indicates:

Location	Existing Level of Service (LOS)	Future Year 2015 LOS
Somers to Kalispell	E (summer months) D (yearly average)	F
Kalispell to Whitefish	E (summer months) D (yearly average)	F
Whitefish to west of Whitefish	D (summer months) C (yearly average)	C (overall segment) D (selected intersections)

Figure 1-3 provides a diagrammatic description of different levels of service.

For this project, the **Year 2015 LOS which is used as a guide for design of the project is**:

- LOS C: rural areas.

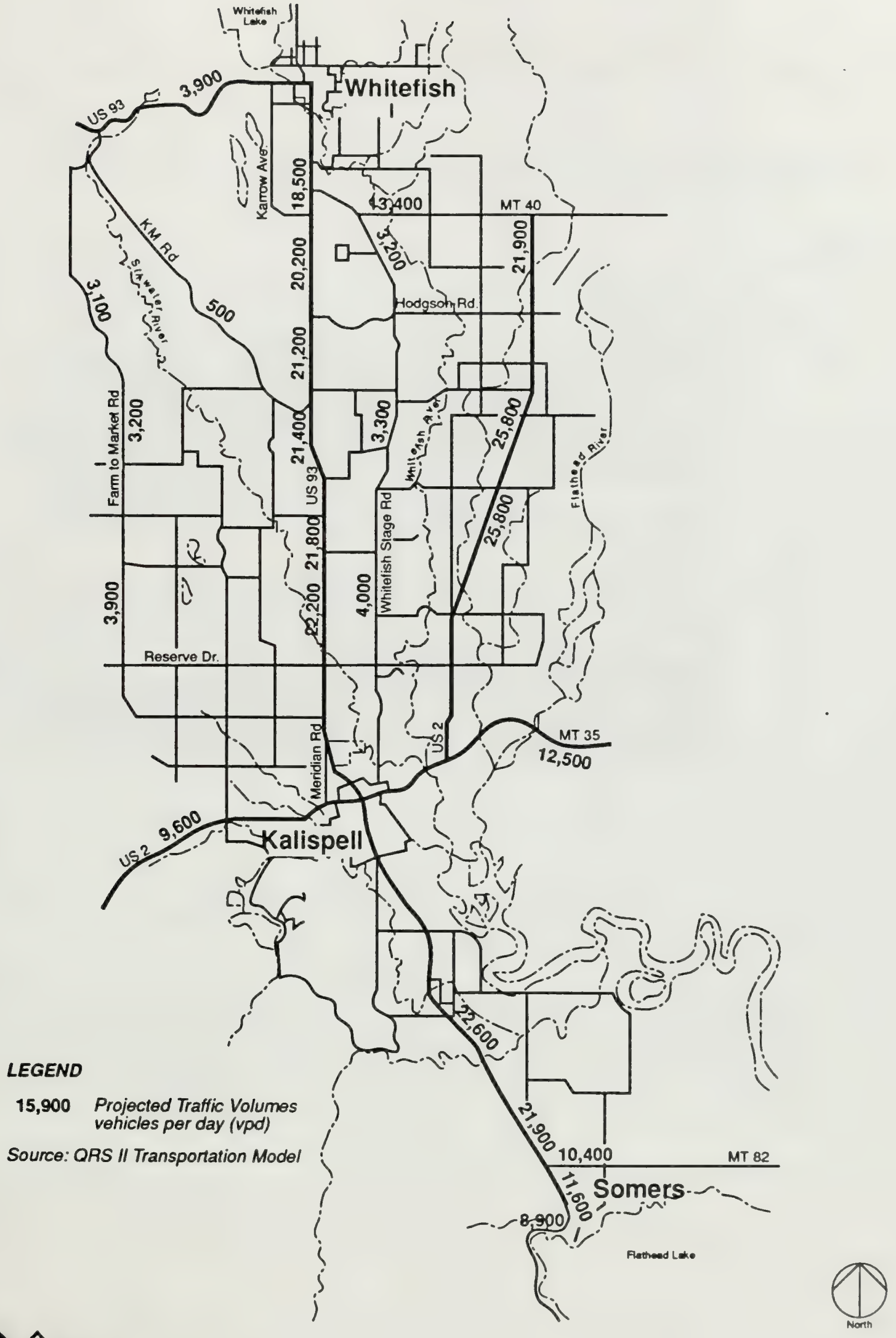
- LOS D: urban areas.

1.3.2 Passing Opportunities

Existing US 93 is designated no-passing for 55 percent of its length between Somers and Kalispell and 45 percent of its length between Kalispell and Whitefish. This designated no-passing area, when compounded by the high traffic volumes (especially during peak periods and in the tourist season), weather and road conditions, and the slow moving truck, elderly driver, or recreational vehicles results in a virtual 100 percent no-passing zone, for all 46.18 kilometers (28.7) miles of the study area.

1.3.3 Trucks and Other Large Vehicles

The relatively high percentage of large trucks (such as logging trucks or other commercial haulers) and recreational vehicles contribute to the overall capacity problems on US 93. Surveys in the study area in 1993 indicate that the mix of large **commercial motor vehicles** varies between 8 and 13 percent.



LEGEND

15,900 *Projected Traffic Volumes vehicles per day (vpd)*

Source: QRS II Transportation Model

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Figure 1-5

2015 No Build (Existing & Committed Network)

Summer Daily Traffic Volumes

Commercial motor vehicle percentages are highest in the segment of US 93 west of Whitefish. In this area, large commercial motor vehicles (single unit and larger) account for 13 percent of the vehicle mix, compared to approximately eight to nine percent in other locations.

These large vehicles:

- Have difficulty negotiating turns along US 93, thus slowing traffic.
- Have difficulty accelerating quickly, thus slowing traffic.

Analysis was done of the commercial motor vehicle routes and truck trends in the study area. Due to their large size and slow speeds, many highway drivers consider commercial motor vehicle to be traffic hazards and impediments. A typical loaded commercial motor vehicle requires more lane space (length and width), stopping distance [at least 91.4 meters (100 yards) at average highway speeds], acceleration time, and turning room than most other vehicles. Trucking activity in the Flathead Valley is expected to increase, along with population and overall traffic volumes, over the next decade.

Specific findings of this analysis are:

- Log trucks typically travel within the study area for about eight months of the year. The most heavily used routes are shown on Figure 1-6. Areawide timber harvesting is expected to decline noticeably over the next decade.
- Chip and lumber truck use is steady year-round. Chip trucks generally travel between lumber mills in Kalispell and Columbia Falls and pulp and plywood mills in Missoula or British Columbia.

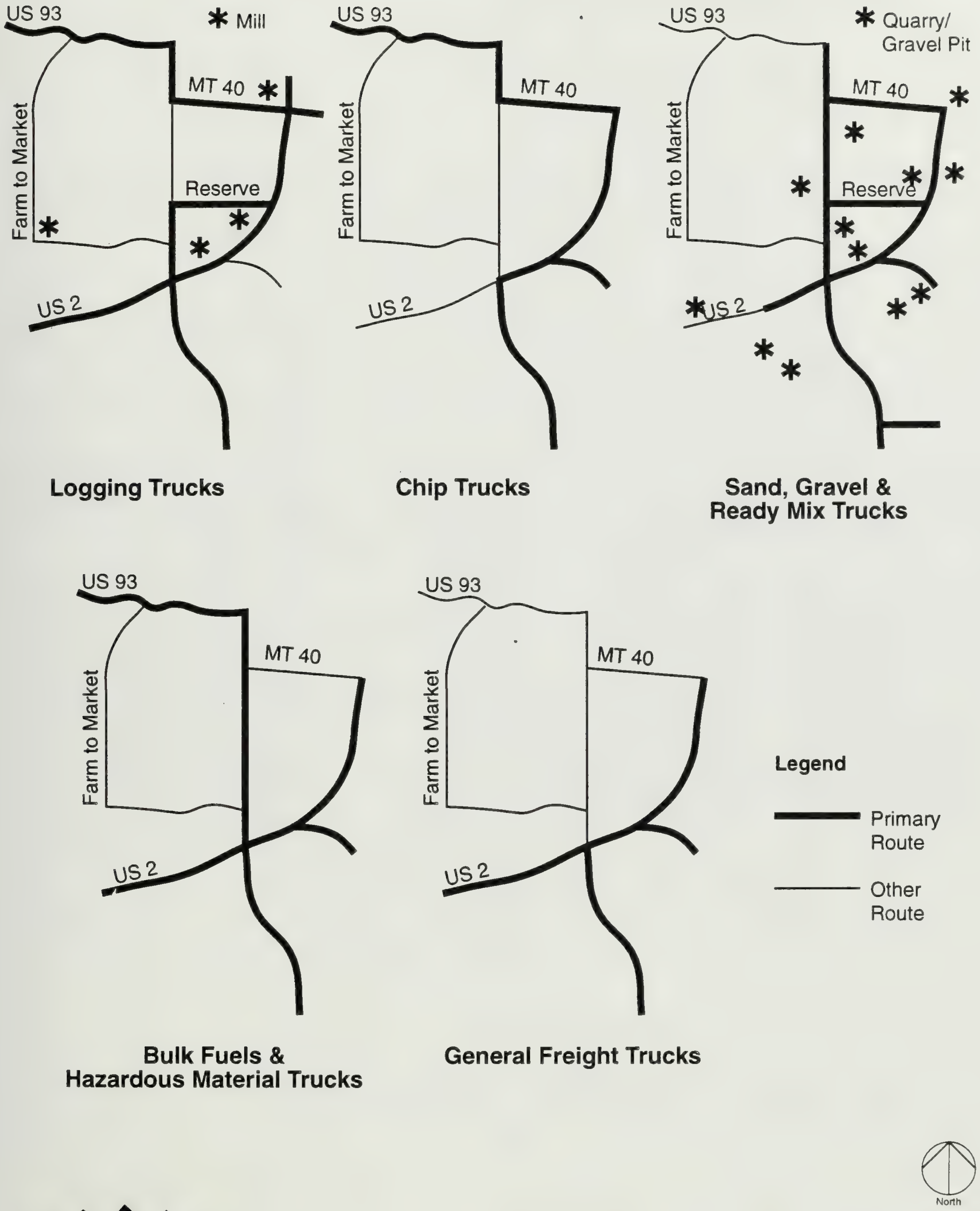

Figure 1-6

Study Area Truck Routes

- Sand, gravel and ready mix trucks are associated with the construction activity in the area, which is projected to continue as in-migration continues. These trucks travel from gravel pits to construction sites.

- Bulk fuel and hazardous material trucks are hauled into and through the Flathead Valley from Canada, and other states and cities in eastern Montana and Missoula. Anhydrous ammonia is being shipped into the Valley from Canada in increasing quantities. During the Spring and Fall, trucks hauling this extremely noxious liquid travel daily along US 93 through Whitefish and Kalispell to farm suppliers in the communities, and private farms in outlying areas.

  An anhydrous ammonia or other chemical spill in Kalispell or Whitefish could have disastrous implications on the surrounding populace. The likelihood of such a spill increases as more hazardous materials are trucked into the valley while local traffic volumes continue to increase.

- General freight trucks include any material that cannot be categorized as one of the commodities described previously. As the population grows in the Flathead Valley and other areas of Western Montana, local freight hauling operations should also increase.

Increasing the capacity of US 93, in itself, will not mitigate the increased problems caused by large **commercial motor vehicle** mixing with automobile, bicycle and pedestrian traffic. The great majority of trucking industry contacts indicate a preference for at least one bypass of Kalispell, and a bypass of Whitefish to route **commercial motor vehicles** and other through traffic around these communities.

1.3.4 Driver Mix

The diverse mix of drivers using US 93 makes it difficult for the highway to carry traffic at a high level of service because a relatively high percentage of drivers are unfamiliar with driving conditions in the study area. This mix includes:

- International drivers who may not be familiar with United States driving practices.
- Every-day commuters (characteristically impatient).
- Newcomers to the Valley (new tourists) -- some of them driving recreational vehicles or towing trailers.
- Second-home type visitors (here in the summer only).
- Generally aging population (tend to drive more slowly).
- Commercial haulers **(described in Section 1.3.3)**.
- School buses.
- Newcomers to the Valley who may be unfamiliar with winter driving conditions.

1.3.5 Driveway Access Points

The large number of intersection and driveway access points along US 93 also degrades overall traffic service. Existing access points are summarized in Figure 1-7. Generally, the density of accesses increases closer to the urbanized areas.

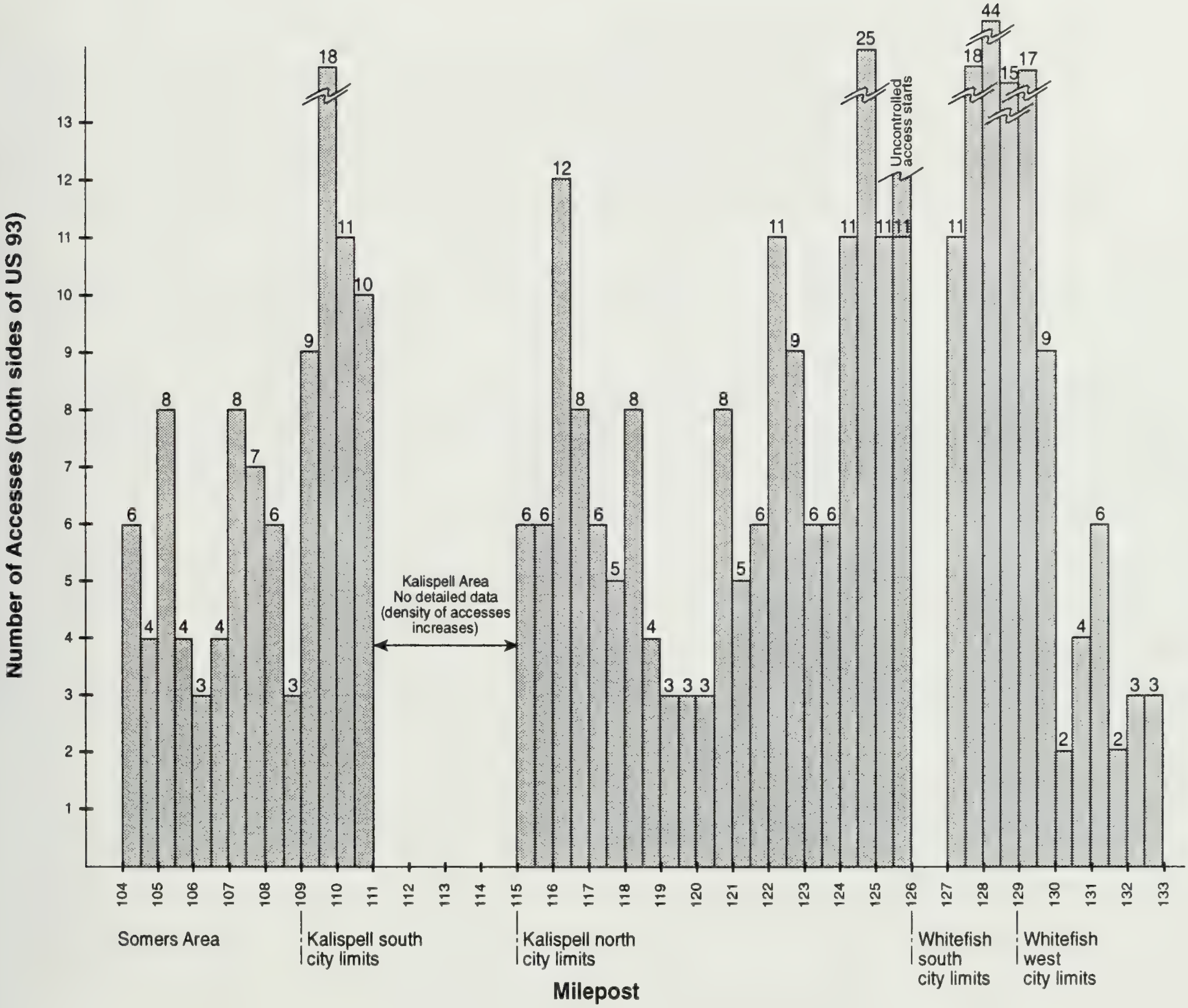

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Figure 1-7

Access Points per Half Mile

1.4 Economic Development

Tourism is an important and growing industry for the Flathead County. It is estimated that approximately 2.7 million visitors came to Flathead County in 1991. Flathead County is estimated to account for 11 percent of statewide expenditures for non-resident travelers (Montana Institute for Tourism Research 1992). Non-resident travelers are estimated to have spent about $150 million in Flathead County in 1992. This has increased dramatically over the last several years (an increase of 78 percent since 1988). Visitation at Glacier National Park alone increased from 1.9 to 2 million visitors from 1990 to 1991, an increase of five percent in one year only. Tourism along the US 93 corridor tends to be seasonal, with over 75 percent of non-resident visits occurring in the summer. Visits by Montana residents also contribute to the Flathead economy.

According to the Institute for Tourism and Recreation Research, Montana's tourism industry has been insulated from recessionary impacts due to its regional nature. The state's principal markets are California, the Pacific Northwest and the Upper Midwest. In addition, there was tourism growth generated from Canada and overseas travel.

There are three US 93 related issues which are important to the ongoing support of Flathead County tourism:

- US 93's growing reputation for being a difficult and dangerous driving experience may deter some people from visiting the Flathead (Flathead Convention and Visitors Association, 1993).

- Increasing congestion has been found to negatively impact business in Flathead County (as indicated in a business survey in Kalispell in 1993).

- Maintaining and enhancing existing Flathead County visual quality is an integral element of a sustained and growing industry based on tourism. The visual quality in Flathead County has been variously described as "scenic," with "spectacular vistas" or "beautiful western vistas." The rural and open nature of the Flathead is one of the critical reasons that the area is becoming a second home to wealthy celebrities and others who wish to escape the more crowded, congested areas in other states. This visual character is declining due to the increase in strip commercial development, along US 93 and other highways throughout the County.

1.5 Visual Quality

The relationship of transportation improvements to maintaining and enhancing the visual quality of the Flathead Valley was a major issue discussed in scoping meetings. There is a concern that the form of the highway now (with no access control) and the possible future form the highway improvements might take could degrade visual quality in the Valley such that quality of life of the Valley residents and future economic development would be negatively impacted. The importance of visual quality has been further reinforced during the Flathead County Master Plan update process **which has just been completed, although not yet adopted**.

This scenic corridor is important on a national basis because it serves as the western entrance to the Glacier National Park. The Park is north and east of the valley bottom but tourist traffic must travel the length of the corridor to reach this scenic resource.

Generally the character of this Valley can be described as low lying agricultural and residential development surrounded by mountain ranges and forest land. Driving the existing US 93 corridor offers the motorist a range of views which either enhance the character of the Valley bottom or tend to distract from the panoramic scenic quality that exists today.

Historically, the Valley bottom has enjoyed undisturbed views of the surrounding mountains but this has changed in some locations during recent years. Billboard advertising and industrial development at the roadside block some of the background views previously possible. These major changes in the foreground along some portions of US 93 change the visual character of the Valley.

1.6 Population and Employment Growth

1.6.1 Population Trends

Flathead County is one of Montana's fastest growing areas. The county's population grew from 39,460 in 1970 to an estimated 64,000 in 1993. The county is expected to continue to experience rapid growth. Projections are for the county's population to exceed 71,000 in 2000, and to exceed 86,000 by 2015. Over 80 percent of the county's recent population growth (since 1970) has occurred outside its three cities (Kalispell, Whitefish and Columbia Falls). This trend is expected to continue, and will contribute importantly to increases in travel along travel corridors connecting exurban areas with the county's cities.

The Flathead Valley is also experiencing substantial increases in its seasonal residents. In 1993, Flathead County's summertime population will approach 70,000 (6,000 additional people exclusive of tourists). Most of the county's seasonal residents (second-home residents) reside in rural areas of the county. The Flathead's seasonal residents are also expected to increase dramatically. Seasonal residents further add to summertime traffic on travel corridors connecting exurban areas with cities.

1.6.2 Economic Trends

The Flathead economy is shifting from a natural resource, manufacturing and railroad-based economy to a service-based economy. From 1970 to 1990, county-wide employment more than doubled, from 15,000 to over 31,000. Most of this job growth occurred in the service and retail sectors. Employment in the county's major resource extraction, manufacturing and railroad industries experienced little or no growth.

Flathead County employment is projected to exceed 50,000 jobs in 2015. Again, most of this job growth is expected to occur in service and retail-oriented businesses. These sectors will particularly benefit from growth in the region's tourism industry, growth in the area's retirement population, and the economic effects of general population growth. This fact places greater importance on the need to enhance and maintain the qualities in the Flathead Valley which contribute to the growing tourism industry. Many of the Flathead Valley's new and growing businesses will seek major traveler corridors as locations for their business expansions.

1.7 Social Needs

The current condition of US 93 adversely affects the neighborhood and social fabric of residents and visitors to the Flathead Valley. Specific problems are:

- High traffic (and truck volumes) which turn US 93 into a barrier to pedestrian, bicycle and cross-traffic circulation. This is particularly a problem in the urban areas of Whitefish and Kalispell.

- Increasing congestion which **increases carbon monoxide emissions and** decreases energy efficiency.

- Increasing difficulties experienced by school buses, which currently need to stop on US 93 to load and unload school children.

- Increasing strip commercial development, which is not discouraged by the unlimited access currently provided by US 93. This type of development is in conflict with the Flathead County Master Plan. In the 1993 Flathead County survey conducted as a part of the Flathead County Master Plan update, 55 percent of respondents identified strip commercial development a type of development which is not desirable.

1.8 Safety

1.8.1 Automobile Accidents

Inadequate access control for US 93 is responsible for many of the accidents occurring on US 93. Driver frustration created by delay entering the highway and frustration by the limited opportunities for vehicles to pass slower moving vehicles along the US 93 increases the overall accident rate. In addition, inadequate gaps in traffic exist for side road and driveway traffic to safely ingress into the vehicle stream and for safe pedestrian crossing in high pedestrian activity areas. This segment of highway has a high differential in speeds attributed to the aging population in the area, recreational tourists and the commuter driver.

The average automobile accident rate is exceeded for approximately 67 percent of the mileage in the study area. This is broken down by area and accident type as shown on Figure 1-8. As shown in Figure 1-8, accident rates are as much as ten times higher than statewide averages in the rural segments. The average automobile severity rate is exceeded for approximately 75 percent of the study area.

There are some noticeable "spot" problems, where the accident rate is significantly higher than in other locations. Analysis by location shows that accidents significantly increase in the urban areas. This figure also shows that in 26 locations, the accident rate is higher than the average State of Montana accident rate for the roadway type. These are shown on Figure 1-9.

The road conditions are a factor in the existing accident rates. Approximately two to ten percent of overall accidents occur when road conditions are less than ideal due to weather such as snow. The percentages are highest (eight to ten percent) in the segments between Kalispell and Whitefish and in Whitefish.

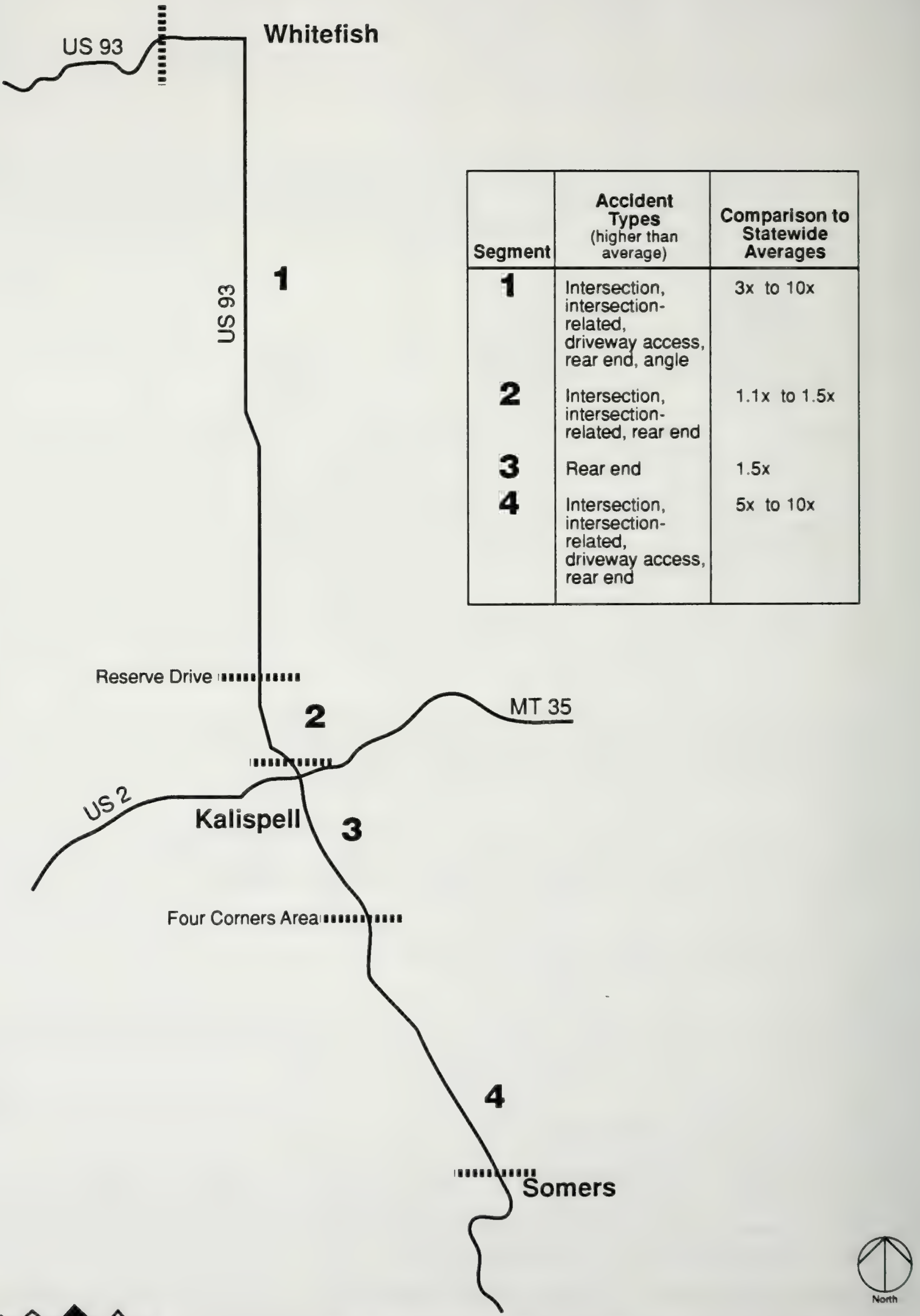
1.8.2 Commercial Motor Vehicle Accidents

An analysis of commercial motor vehicle accident data shows that the average accident rate for trucks is below the statewide average. The severity rate, however, is higher than the average in the northern 60 percent segment of the study area (from Reserve Drive north).

1.9 Modal Interrelationships

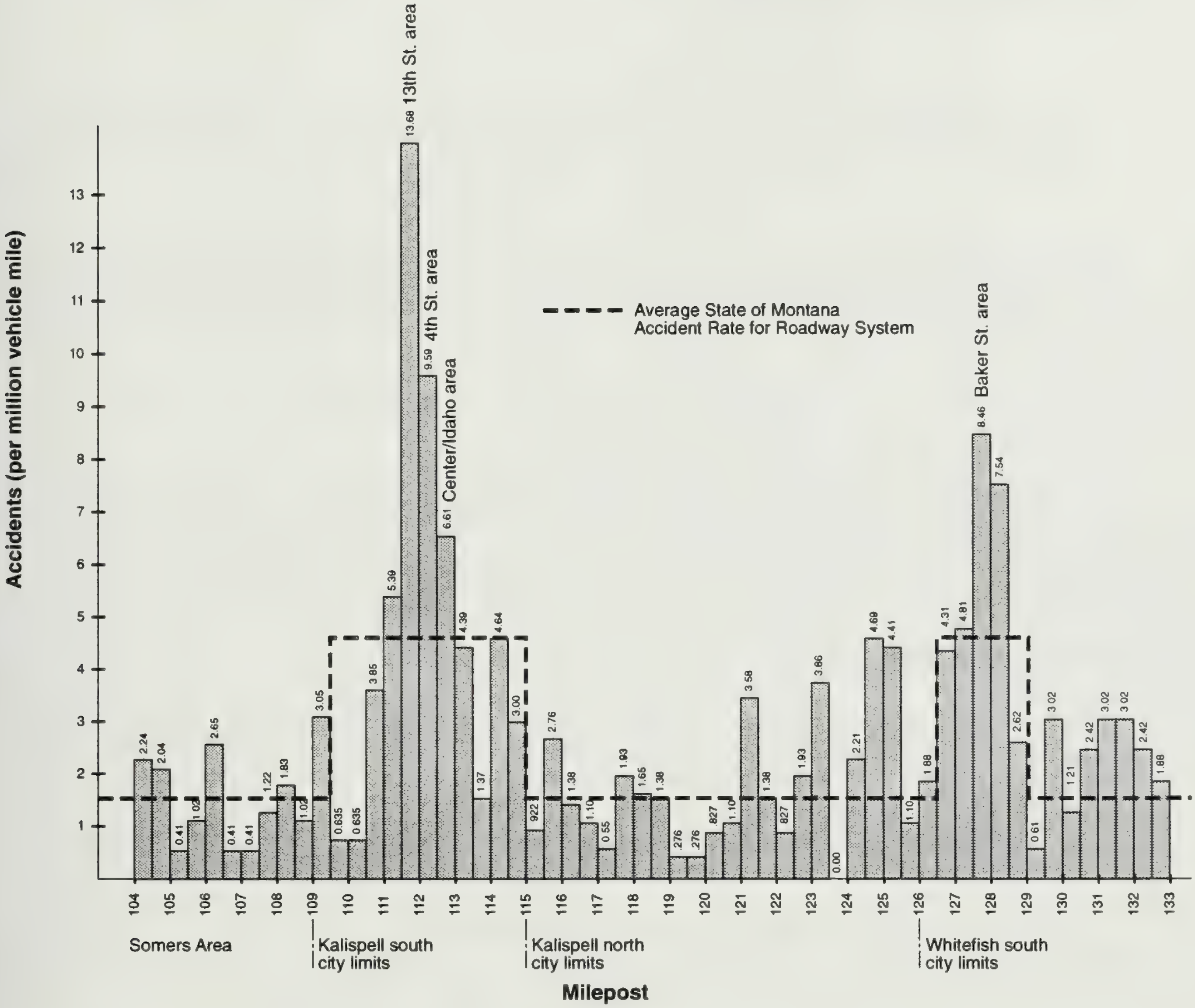
US 93 currently provides access to rail and air transportation as well as being used for bus, pedestrian and bicycle transportation. It serves an important function to connect these other modes. The ability of US 93 to adequately serve and complement other travel modes (such as AMTRAK, bicycle, Glacier Park International Airport and existing bus service) is increasingly hampered by the increase in congestion.

AMTRAK provides daily service into the station in Whitefish. The station is one block north of Second Street, which is on the US 93 system. Total yearly ridership has increased from 44,995 in 1989 to 54,532 in 1991, an increase of slightly over 20 percent in the two-year timeframe.



Segment	Accident Types (higher than average)	Comparison to Statewide Averages
1	Intersection, intersection-related, driveway access, rear end, angle	3x to 10x
2	Intersection, intersection-related, rear end	1.1x to 1.5x
3	Rear end	1.5x
4	Intersection, intersection-related, driveway access, rear end	5x to 10x

Figure 1-8
Accident Types by Segment



Notes:

1. Average accident rates are 1.47 accidents/million vehicle miles on the primary system in rural areas and 4.90 accidents/million vehicle miles on the urban system for similar roadway facilities within the state of Montana.
2. Roadway systems vary depending on whether they are in the urban or rural segments.
3. The calculated accident rates are for 1/2 mile segments.

Figure 1-9

Accident Rates (by milepost)

A consistent problem that was expressed during the scoping phase of the project was the inadequate provision of bicycle and pedestrian facilities to serve the commuter and recreational needs. Interest in improved bicycle facilities in the Flathead has been expressed by the Flathead Valley Bicycle Club, Rails to Trails and AAA of Montana.

Glacier Park International Airport is served by two commercial airline carriers. June through September is the peak season for air travel. Passenger activity has steadily increased over the last several years (nine percent increase overall over the last ten years) with substantially greater increases (20 to 25 percent) occurring in July and August.

Bus service problems are:

- Decreasing reliability as congestion increases.
- Increasing travel times in more stop-and-go traffic which increases maintenance and operating costs.

Improvements to US 93 will substantially facilitate these interrelationships with other modes of travel.

1.10 Road Deficiencies

There are a number of deficiencies with existing US 93 that this project is intended to address. These are determined to be deficiencies when compared to MDT state standards and national **guidance** as defined in *A Policy on Geometric Design of Highways and Streets*, AASHTO, 1990. These are:

- Existing substandard vertical geometry just north of Stillwater Bridge and at five **locations** west of Whitefish.
- Substandard lane or shoulder widths in the following locations:
  a. Shoulder widths of only 2.44 meters (eight feet) (Milepost 104 to 109.6).
  b. Shoulder widths of only 1.83 meters (six feet) at the Ashley Creek crossing.
  c. Shoulder widths of 2.44 meters (eight feet) and short segments of 3.35-meter (11-foot) lanes (Milepost 109.6 to 114.96).
  d. Shoulder widths of only 1.83 meters (six feet) (Milepost 114.96 to 125.44).
  e. Shoulder width of only 0.61 meter (two feet) (Milepost 125.44 to 126.44).
  f. Shoulder width of 0.305 to 0.61 meter (one to two feet) (Milepost 126.44 to 127.7, and 128.9 to 133).
- Substandard clear zone limits.
- Existing substandard horizontal geometry at the Kalispell Courthouse and at several curves west of Whitefish.
- Short or non-existent acceleration/deceleration lanes (at most intersections).

- Inadequate signage (need for larger street name signs, advance-intersection signage, sign posts that are not break-away type, improved reflectivity and replacement of older signs).
- Lane striping that is difficult to see during the winter months.
- <u>Geometrics of the existing intersections that do not meet the demands of present traffic.</u>
- Access concentrations are shown on Figure 1-7. Specific locations where the access concentrations result in congestion or safety problems are:

  a. The 1.61-kilometer (one-mile) segment just south of MT 40 (with 36 driveway connections per mile).

  b. Within the Kalispell and Whitefish city limits (with 18 to 25 access points per mile).

  The majority of the access points are poorly designed such that there is no opportunity for the driver accessing US 93 to accelerate to the higher speed on US 93.

Chapter 2.0
Alternatives

Chapter Two

Alternatives

Chapter 2.0: Alternatives

Changes in text between this document and the Draft EIS are in bold and underlined.

2.1 Alternatives Development Process

The National Environmental Policy Act requires that "reasonable" alternatives be presented and evaluated in detail in an Environmental Impact Statement (EIS). Reasonable alternatives are defined by the Council on Environmental Quality as those that are practical or feasible from a technical or economic standpoint. Reasonable alternatives have been defined for this project as those that are technically, economically, and environmentally practical and feasible and satisfy the project purpose and need as described in Chapter One. This chapter describes the process used to identify reasonable alternatives, and the reasonable alternatives that were selected for further study.

Section 2.4 describes the reasonable alternatives that are fully evaluated in this document. By segment, these alternatives are:

Segment	Alternatives Being Considered
1. Somers to Kalispell	No-Build, A(MEDIAN), A(TURN-LANE), A(COMBO)
2. Kalispell Area	No-Build, A*, A plus B(MEDIAN), A plus B(TURN-LANE)
3. Kalispell to Whitefish	No-Build, A(MEDIAN), A(TURN-LANE), A(COMBO)
4. Whitefish Area	No-Build, A(FOUR-LANE), C(OFF-SET), C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)
5. Baker to Karrow and West of Whitefish	No-Build, A*
6. Karrow Avenue to MP 129	No-Build, A(MEDIAN), A(TURN-LANE)

**The Alternative A concepts in Kalispell and west of Whitefish differ from the rest of the corridor and are described in Section 2.4.2.5.*

Section 2.3 describes the alternatives which were considered but not advanced. These include seven corridors which are parallel to US 93, seven bypasses of Kalispell, five bypasses of Whitefish, and a number of different lane configurations of US 93, transit options and transportation demand management (TDM) options.

Section 2.7 discusses the selection of the preferred alternative, including the process used and primary reasons for the selection of the preferred alternative.

2.1.1 Public Involvement

An extensive public involvement program has been conducted on this project. This was initiated by a Notice of Intent to prepare the EIS, published in the *Federal Register* on January 27, 1993. Other elements of the public involvement program included:

- Formation of an Advisory Committee, which met **eleven** times prior to publication of the Final EIS. The Advisory Committee was extensively involved with the development of goals and objectives, development of initial concepts, screening of concepts, development of alternatives to be advanced, location of design features, such as truck turn-arounds and frontage roads **and recommendation for a preferred alternative**.

- Ten public meetings held in April 1993, June 1993, September 1993 and November 1993.

- Over **200** meetings with Flathead County groups and individuals.

- Setting up a project "hotline" for citizens to call with questions or comments.

- Setting up and staffing a project office (open for six months between April and October 1993).

- Development of a project newsletter, which was issued **seven** times prior to publication of the Final EIS.

- **Draft EIS Public Hearings (three) held in April 1994.**

This public involvement program is described in more detail in Chapter Six of this Final EIS.

The primary public concerns that have been expressed regarding the development of alternatives are:

1. Consider parallel corridors, such as Farm-to-Market Road, US 2, Whitefish Stage, KM Ranch Road.

2. Consider Kalispell bypass alternatives.

3. Consider Whitefish bypass alternatives.

4. Consider US 93 design alternatives, such as five-lane, four-lane with median, four-lane with median and frontage roads, and four-lane with median and a split alignment (in locations).

5. Consider US 93 operating alternatives Transportation System Management (TSM) improvements, such as:
   - Additional traffic signals.
   - Two lane with passing and turning lanes.
   - Signage, lighting.
   - Decreased speed limits.

6. Consider special areas of concern, such as:
   - Bridge over Stillwater River.
   - Gateway treatments for cities.
   - Rest stops/interpretive areas/tourist information areas.
   - Fog lights, snow fences, snow storage requirements.
   - Mail box turn-outs.
   - School bus pull-outs.
   - Stock and equipment underpasses.
   - Limiting or eliminating billboards.
   - Landscaped, maintainable median -- meeting sight distance requirements.
   - Wildlife crossings (Ashley Creek).
   - Noise/visual buffers in residential areas.

7. Consider alternative modes, such as:
   - Bike/pedestrian paths on separate alignment.
   - Increased/improved bus service.
   - Pedestrian overpasses/underpasses at FVCC, Happy Valley.
   - Equestrian trails.
   - Park-n-rides.
   - Train between Whitefish, Kalispell, Somers and Columbia Falls.
   - Van/carpooling incentives, lanes?
   - Emphasizing alternate routes for bicyclists/pedestrians.

8. Consider different funding options, such as:
   - Toll road.
   - Enhancement funds.
   - Preservation of future right-of-way.
   - Congestion Management and Air Quality (CMAQ) funds.

2.1.2 Agency Coordination

In addition to extensive public involvement, there has been a substantial amount of agency coordination on this project. Cooperating agencies are the US Army Corps of Engineers, US Fish and Wildlife Service, US Environmental Protection Agency, US Soil Conservation Service, Flathead County, Montana Department of Transportation, Montana Department of Health and Environmental Science and Montana Department of Fish, Wildlife and Parks. A project Interdisciplinary (ID) Team was established consisting of official representation from the following agencies: Montana Department of Transportation; Federal Highway Administration (FHWA); Soil Conservation Service (SCS); US Fish and Wildlife Service (USFWS); US EPA; US Army Corps of Engineers (USCOE); Montana State Historic Preservation Office (SHPO); Montana Water Quality **Bureau** (MWQB); Montana Air Quality **Bureau (now Air Quality Division)** (**MAQD**); Montana Department of Fish, Wildlife and Parks (MDFWP); and Flathead County. The FHWA is the lead agency. The purpose of the ID Team is to provide technical and resource information for inclusion in the EIS and guide the environmental analysis. The ID Team was involved in the development of the project objectives described in Section 2.1.3.

Formal ID Team meetings occurred on the following dates:

- April 22, 1993
- June 10, 1993
- September 30, 1993
- **March 24, 1994**

In addition, an air quality inter-agency consultation team was formed specifically to provide guidance to the EIS team for the air quality analysis. This team consisted of MDHES (**MAQD**), EPA, FHWA and MDT. This team met several times.

Other agency meetings and contacts occurred on a regular basis to address issues of concern to the specific agency.

2.1.3 Project Goals and Objectives

Project goals and objectives for the Somers to Whitefish EIS project were developed for two primary purposes: to assist with the development of alternatives, and assist with the screening of alternatives. The goals and objectives were developed together with the Advisory Committee and in response to input derived during the scoping process.

These project goals and objectives are intended to supplement project purpose and need as defined in Chapter One.

Input was derived from the following sources: from public scoping process; regulatory agencies (such as USCOE, USFWS, MDFWP, MDHES, USEPA); and results of data collection.

A. Transportation

1. Improve corridor mobility
   - Decrease traffic congestion.
   - Provide for future traffic growth.
   - Improve conditions for emergency vehicle and school bus access and circulation.
   - Develop corridor for large through trucks -- that is compatible with adjacent land use.

2. Improve corridor safety
   - Decrease existing accident rate.
   - Decrease potential for future accidents, for motor vehicles as well as pedestrians and bicyclists.
   - Decrease potential for accidents associated with hazardous materials routing.

3. Provide for existing access needs.

4. Provide for alternate modes of travel
   - Maximize opportunity for pedestrian and bicycle circulation.
   - Improve public transportation options

5. Maximize compatibility with transportation plans.

B. Community/Economic Impact

1. Support community quality
   - Maximize compatibility with future land use goals (community centered growth).
   - Minimize displacement of households or businesses.
   - Enhance visual quality.
   - Reduce barriers to pedestrian circulation.
   - Reduce barriers associated with truck traffic in cities.
   - Maximize compatibility with future bicycle or greenway plans.

2. Enhance economic development
   - Minimize economic impact to existing businesses, including impacts of construction delays.
   - Minimize right-of-way impact (tax base removed).
   - Enhance tourism.

3. Provide affordable improvements
   - Minimize capital cost.
   - Minimize maintenance costs (longer-term costs).
   - Maximize opportunity to obtain funding.

C. Environmental

The goals within this category generally follow the sequencing requirements as set out by the Council on Environmental Quality (CEQ): to avoid an impact first; secondly to minimize an impact and finally to mitigate an impact.

1. Provide an environmentally sensitive transportation system.
   - Avoid first, then minimize impact to historic and archaeological sites.
   - Avoid first, then minimize impact to wetlands.
   - Avoid first, then minimize impact to floodplains.
   - Avoid first, then minimize impact to endangered species.
   - Avoid first, then minimize impact to prime farmland.
   - Avoid first, then minimize impact to wildlife.
   - Avoid first, then minimize noise increases.
   - Improve air quality.
   - Avoid first, then minimize water quality problems.
   - Avoid first, then minimize involvement with hazardous waste sites.
   - Avoid first, then minimize impact to parks.

D. Construction

1. Minimize construction impacts
   - Minimize traffic delays during construction.
   - Minimize potential for problems to be encountered during construction.

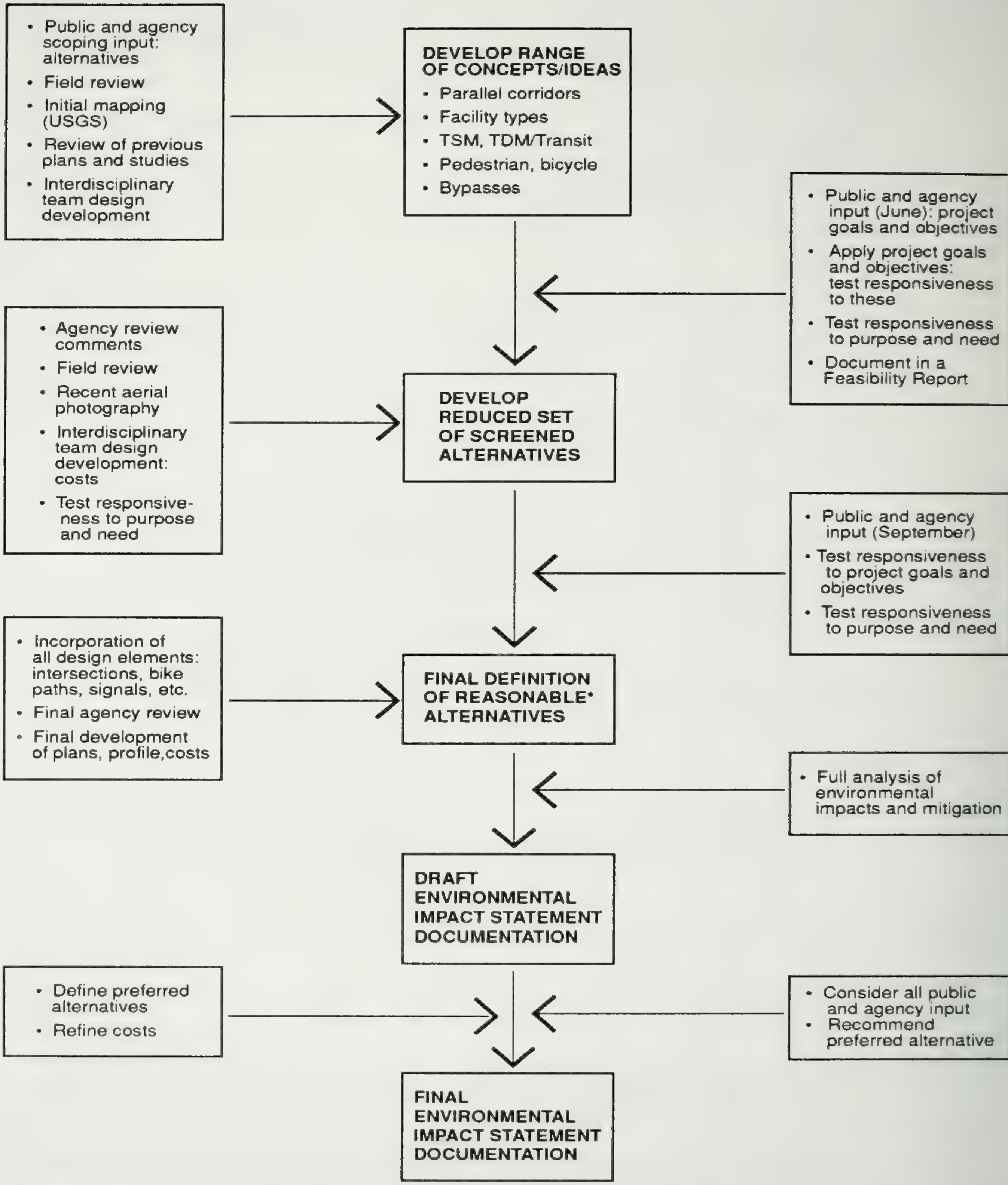
2.1.4 Description of Alternatives Development Process

The alternatives development and evaluation process is described generally in Figure 2-1 and consists of the following major steps:

1. Analysis of scoping input, review of past studies, preliminary development of project purpose and need and analysis of opportunities and constraints. This process included analysis of each segment of US 93, as shown in Figures 2-2 and 2-3.

2. Development of range of concepts. These were discussed in the third Advisory Committee meeting, the second group of public workshops and the second ID Team meeting.

3. Analysis of range of concepts based on public and agency input, response to goals and objectives, refined statement of purpose and need and field review of environmental resources.



* Alternatives that are economically, environmentally, and technically feasible and meet project purpose and need

Figure 2-1

Alternatives Development Process

Opportunities & Constraints

- Residential character
- Transition from urban to rural
- Community college and hospital
- No on-street parking
- Pedestrian and bicycle traffic
- Higher operating speeds
- Development setback
- Signalized intersections
- Power line crossing
- Views of whole valley to north
- Rolling topography
- Controlled access to major intersections

Possible Design Solutions

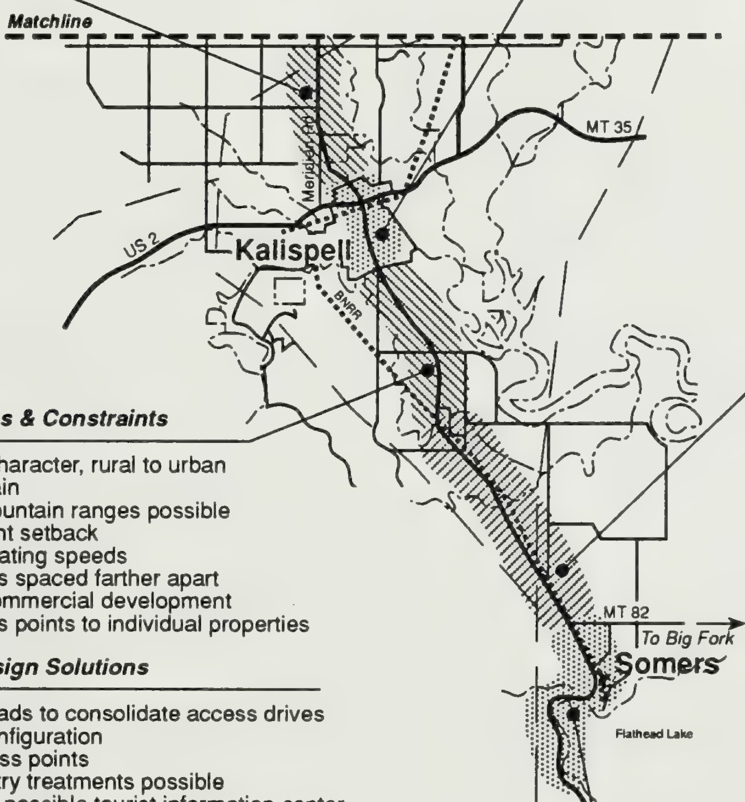
- Pedestrian trails and roadway crossings
- Parkway configuration with landscaping
- Independent alignment possible
- Frontage roads not needed
- Kalispell gateway treatments possible
- Signal progression

Opportunities & Constraints

- Residential/downtown character
- Buildings close to roadway
- Limited right-of-way
- High pedestrian activity
- Lower operating speeds
- Signalized intersections
- Views focused on adjacent property
- Locally significant buildings, courthouse, depot, downtown
- On-street parking
- Many cross-street access drives
- Historic properties
- Area is non-attainment for PM10

Possible Design Solutions

- Urban streetscape treatments
- Downtown signage and lighting
- Tourist information center
- Pedestrian crosswalk signal phase
- Off-street parking
- Parallel commercial routes
- Divided median in residential neighborhoods
- Signal progression



Opportunities & Constraints

- Transition character, rural to urban
- Rolling terrain
- Views of mountain ranges possible
- Development setback
- Higher operating speeds
- Intersections spaced farther apart
- Industrial/commercial development
- More access points to individual properties

Possible Design Solutions

- Frontage roads to consolidate access drives
- Parkway configuration
- Added access points
- Kalispell entry treatments possible
- Location for possible tourist information center
- Signal progression

Opportunities & Constraints

- Rural character
- Some commercial/industrial development
- Farm access points
- Rolling terrain
- View of mountain ranges to east and north
- Wetlands and wildlife concerns
- Historic properties (railroad and farms)
- Generally higher operating speeds
- Open topography
- Less developed land adjacent to highway
- Fewer access drives
- Adjacent abandoned rail corridor
- Power line crossing
- Relocate intersection

Possible Design Solutions

- Interpretive signage or rest area potential
- Divided median possible
- Use rail ROW for highway and bike trail
- Wide shoulders/frontage road for rural traffic
- Minimal roadside landscaping on east side of highway to allow views east
- Span wetlands and allow wildlife crossings
- Parkway configuration

Opportunities & Constraints

- Mountain/forest character
- Rock cuts
- Scenic views to north and south
- Gateway to north and south valley
- Steep grades
- Constricted topography-horizontal & vertical
- Sight distance restrictions
- Residential access drives
- Commercial access at MT 82 intersection

Possible Design Solutions

- Retaining walls
- Split alignment
- Median barriers
- Access consolidation or removal
- Rest area/scenic pull out

North

Somers to Whitefish
Environmental Impact Statement

Figure 2-2

Analysis of Opportunities and Constraints
Somers to Kalispell Section

Opportunities & Constraints

- Mountain/forest character
- Scattered residential lots and access drives
- Winding roadway in rolling topography
- Wetland, vegetation and wildlife concerns
- Steep slopes
- Constricted sight lines, distances, and ROW
- Lake front views
- Low pedestrian and bike traffic (safety problem)
- Limited access points
- Golf course and resort development

Possible Design Solutions

- Parkway design consideration
- Independent alignment possible but limited
- ROW may limit locations
- Cut and fill slope retaining walls possible solution

Opportunities & Constraints

- Downtown character with residential
- Parks and creek visible
- Bridge at town entrance
- On-street parking
- Pedestrian and bicycle traffic
- Buildings close to the roadway
- Signals
- Sidewalks, landscaped streets
- Important local buildings
- Some random setbacks west of town
- Flat topography
- Lake shore character west of town
- Lower operating speeds

Possible Design Solutions

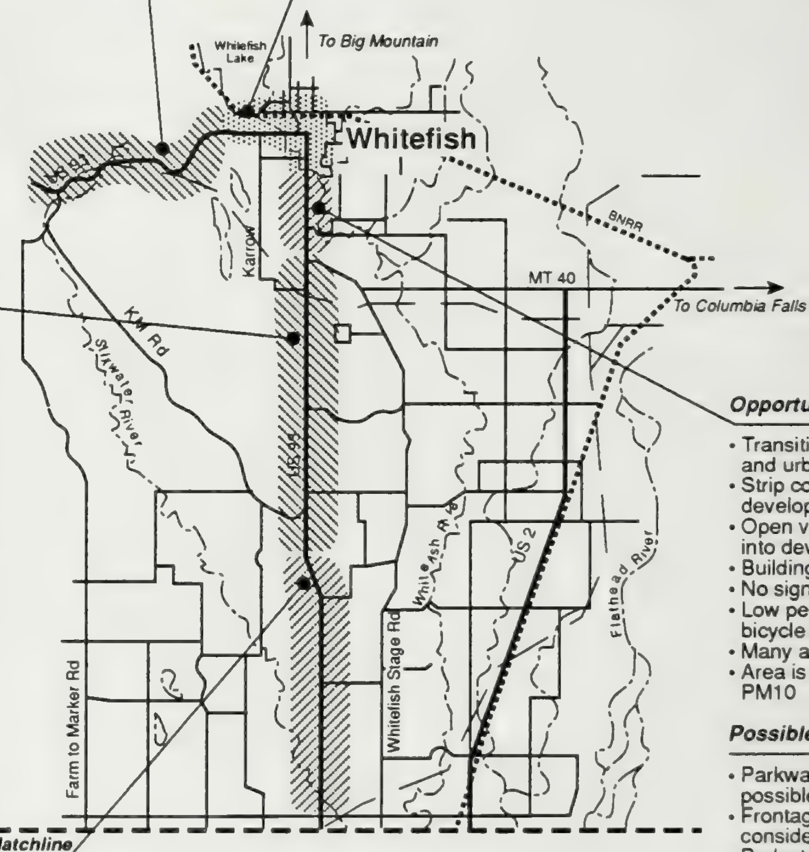
- Uniform pedestrian, walk, and signage to promote downtown image

Opportunities & Constraints

- Forest character with some residential
- Some commercial
- Steeper topography
- Cut and fill slopes on side of roadway
- Limited access
- No signals
- No on-street parking
- Little pedestrian and bicycle traffic (safety problem)
- Background views limited but where possible to north

Possible Design Solutions

- Parkway configuration possible
- Retaining walls to reduce cut/fill slopes
- Increased roadside landscaping
- Barriers to protect existing landscaping
- Pedestrian accommodations needed



Opportunities & Constraints

- Transition between forest and urban character
- Strip commercial development
- Open views to north and into development
- Building setbacks
- No signals
- Low pedestrian and some bicycle usage
- Many access points
- Area is non-attainment for PM10

Possible Design Solutions

- Parkway concept is possible
- Frontage roads might be considered
- Pedestrian and bike trails important to increase shopping traffic
- Possible town entry signage as part of roadway
- Landscaped entry statement

Opportunities & Constraints

- Open rural/residential character
- Scattered commercial
- Views of all mountain ranges possible
- River crossing
- Rolling to steep topography
- Higher operating speeds
- Little pedestrian or bicycle traffic (safety problem)
- No on-street parking
- Scattered limited access
- Wetland concerns
- View of agricultural lands

Possible Design Solutions

- Parkway configuration possible
- Protect vista points with roadway design
- Controlled access to direct roadside development
- Retain rural character with minimal roadside landscaping
- Pedestrian crossings needed

North

Somers to Whitefish
Environmental Impact Statement

Figure 2-3

Analysis of Oppportunities and Constraints
Kalispell to Whitefish Section

4. Development of refined set of feasible alternatives. These were developed together with the Advisory Committee at the fourth Advisory Committee meeting. These were documented in a separate report titled, *Feasibility Study of Design Alternatives*, Carter & Burgess, August 1993. These were developed in accordance with design criteria identified by the American Association of State Highway Officials (AASHTO).

5. Further analysis based on public and agency input and final statement of purpose and need.

6. Screening of feasible alternatives to define the reasonable alternatives to be fully assessed in the Draft EIS. Reasonable alternatives are those that meet purpose and need and are technically, environmentally and economically feasible. These were discussed in the fifth Advisory Committee meeting, the third group of public workshops and the third ID Team meeting.

7. Full analysis of reasonable alternatives (in the Draft EIS).

8. Selection of preferred alternative (prior to publication of a Final EIS). This was done together with the Advisory Committee and **included extensive** input from the general public, the ID Team and other agencies such as the inter-agency air quality consultation team. **Special meetings were held with over 100 US 93 property owners during this process**.

2.2 Range of Alternatives Considered

A range of alternatives were considered throughout the planning process for this project. The alternatives were initially grouped by similarities in function and/or location. The groups of alternatives that were considered include:

- Improving a parallel corridor to US 93.
- Providing bypasses of Whitefish and Kalispell.
- Improving the capacity of US 93.
- Making minor improvements to existing US 93.
- Improving mass transit opportunities.
- Implementing measures to reduce demand for traffic to drive on US 93.
- Making no improvements to US 93 (No-Build alternative).

These alternatives were developed in detail and analyzed based on their responsiveness to the project goals and objectives. The Advisory Committee assisted in the evaluation of their responsiveness to project goals and objectives. The alternatives (and their evaluation) are documented in detail in a Technical Report: *Development and Analysis of Alternatives*, on file with the Federal Highway Administration in Helena, Montana.

A summary of the range of alternatives considered indicating which were advanced and which were not is included in Table 2-1:

Table 2-1
Overview of Alternatives Considered

Grouping	Name of Alternative Advanced	Name of Alternative Not Advanced
Parallel Corridor to US 93		1. Farm-to-Market Road 2. KM Road 3. Whitefish Stage Road 4. Powerline Corridor 5. Corridor on new location 6. US 2 7. Eastshore/MT 35
Kalispell Bypasses	1. Alternative B: Stillwater	1. Kalispell Alternative A: Springcreek Road. 2. Kalispell Alternative Modified B: Meridian Road. 3. Kalispell Alternative C1: Along Willow Glen Drive. 4. Kalispell Alternative C2: Just east of Willow Glen Drive. 5. Kalispell Alternative D: Far eastern bypass. 6. Kalispell Alternative F: Similar to Alternative B but includes powerline route. 7. Kalispell Alternative B extended.
Whitefish Bypasses	1. Alternative G: Baker/Spokane One-Way Pair	1. Whitefish Alternative A: South of Skyles Lake. 2. Whitefish Alternative B: Through Blanchard Lake. 3. Whitefish Alternative C: Along powerline. 4. Whitefish Alternative D: Along Karrow Road. 5. Whitefish Alternative E: Whitefish Stage Extension.
US 93 Improvement Concepts	1. Alternative A(MEDIAN): Maximum Capacity Concept. 2. Alternative A(TURN-LANE): Maximum Accessibility Concept. 3. Alternative A(COMBO): Combination Concept.	1. Two- to three-lane alternative. 2. Four- to five-lane alternative west of Whitefish.
Pedestrian/Bicycle Facilities	1. Separate ten-foot pedestrian and bicycle path. 2. Use of shoulder area as pedestrian/bike lane. 3. Special treatments for pedestrian crossing areas.	1. No pedestrians or bicycle facilities.
Transportation System Management (TSM) Concepts	1. Improved intersections. 2. Intelligent vehicle highway system (IVHS). 3. Access management. 4. Improved signals, signage, lighting. 5. Removal of on-street parking. 6. Glacier National Park signage. 7. Reduced speeds in residential areas. 8. Improved access approaches.	

Table 2-1
(continued)

Grouping	Name of Alternative Advanced	Name of Alternative Not Advanced
Transit Options	1. Park-n-ride facilities. 2. Future transit right-of-way (where possible). 3. Improved amenities for bus patrons.	1. Fixed guideway alternative. 2. Bus system improvement. 3. High occupancy vehicle lanes.
Transportation Demand Management (TDM) Options	1. Enhanced pedestrian or bicycle facilities (such as grade separations).	1. Increased telecommuting. 2. Variable work hours. 3. Employer-based carpool/vanpool programs.
No-Build	No-Build Alternative	

2.3 Alternatives Considered But Not Advanced

The following alternatives were considered but not advanced. A general description of each of the alternatives is provided, with reasons given for its dismissal. Primary criteria used to determine whether or not an alternative should be advanced were:

- Does it meet purpose and need for which the alternatives were derived.
- Is it responsive to the goals identified in Section 2.1.3.
- Does it result in adverse environmental impacts.
- Is it economically feasible.

2.3.1 Group of Parallel Corridor Alternatives

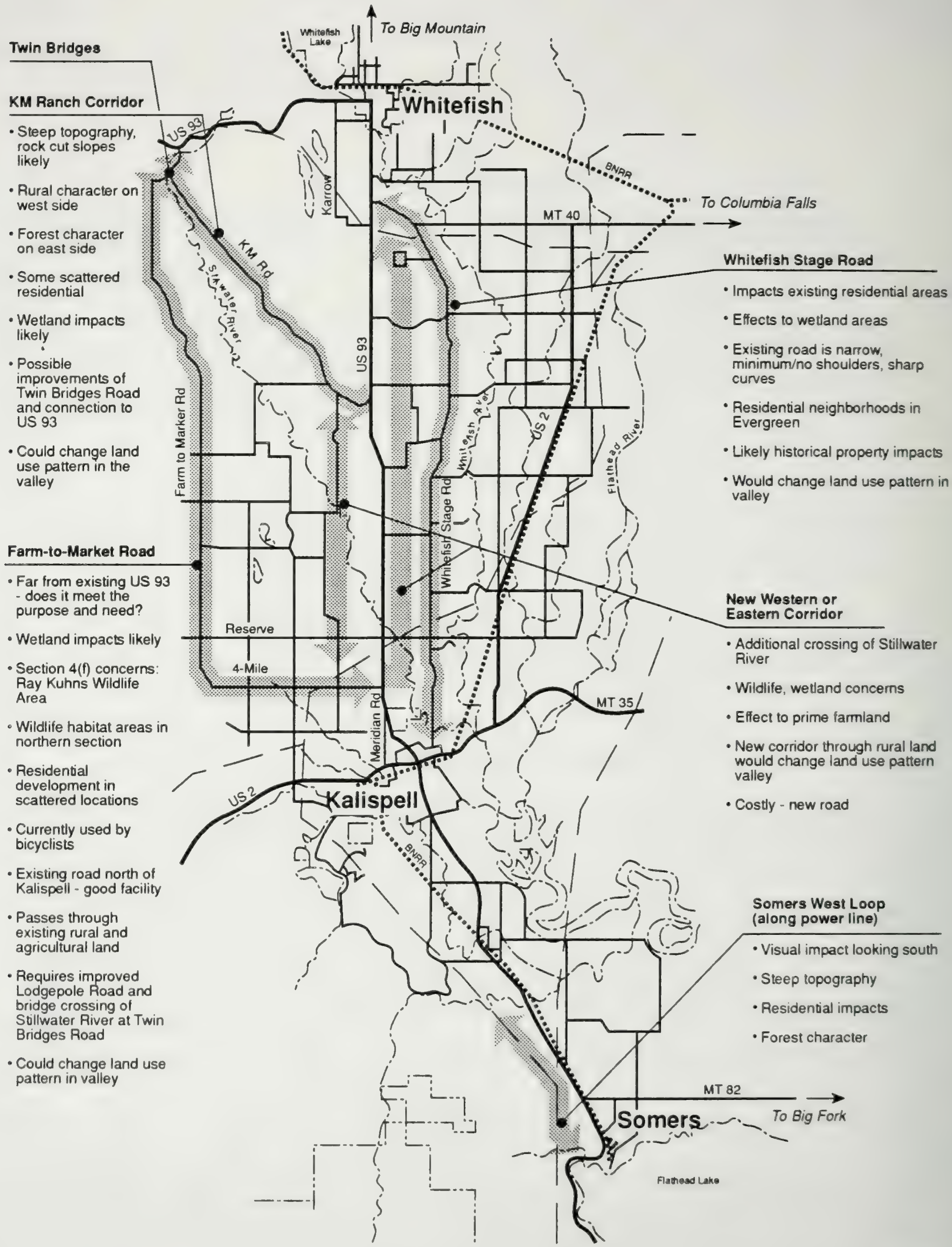
Possible locations have been identified for development of an improved transportation corridor that is parallel to US 93 (Figure 2-4). The idea of improving other parallel corridors was derived during the scoping process. These concepts assume that improvements to these parallel corridors would eliminate the need to substantially improve US 93. Thus, in order to meet project purpose and need, enough traffic would need to divert from US 93 so that major improvements to US 93 would no longer be needed.

Most of these alternatives are between Kalispell and Whitefish and would thus be implemented together with improvements to US 93 between Kalispell and Somers. The powerline alternative would be included together with improvement of US 93 north of the corridor, through Kalispell and to Whitefish.

A discussion of specific alternatives within this group follows.

2.3.1.1 Farm-to-Market Road

The Farm-to-Market Road is generally a 6.1- to 6.71-meter (20- to 22-foot) cross-section [right-of-way varies between 18.3 and 24.4 meters (60 and 80 feet)] with substandard vertical and horizontal sight distance for certain segments of the roadway. It is located along the western edge of the Flathead Valley, as shown in Figure 2-4. The road is currently posted at 55 mph. The facility is paved south of Lodgepole Road and pavement conditions are good. North of Lodgepole Road, the road is gravel.



Somers to Whitefish Environmental Impact Statement

Figure 2-4

Parallel Corridors

The following improvements to this facility were assumed:

- Providing a more direct access to US 93 either by utilizing the existing Twin Bridges Road or providing a new access directly north oı improving Lodgepole Road.
- Improving horizontal and vertical geometry to meet the design standard for a two-lane rural road (including widening and overlaying).

This alternative was not considered reasonable since not enough traffic will be diverted off of US 93 to avoid the need for improvements to be made on US 93. If upgraded, it could, however, serve for diverting some truck traffic from Whitefish. In addition, there were concerns about future land use impacts if this road was developed into a third major transportation corridor in the valley. Other environmental impacts of concern include impacts to wetlands and a wildlife refuge.

2.3.1.2 KM Road

The KM Road is generally a 6.71- to 10.37-meter (22- to 34-foot) cross-section with a 18.3-meter (60-foot) right-of-way (see Figure 2-4). Certain sections have steep embankments on the west side. The road is gravel for the north 8.05 kilometers (five miles) and paved for the southerly 3.22 kilometers (two miles).

The following improvements to this facility have been assumed:

- Improvements to the horizontal and vertical geometry to meet minimum design standards for a two-lane road.
- Improvements on Twin Bridges Road from KM to US 93.
- Paving the entire section of KM Road.

This alternative is not considered reasonable since not enough traffic will be diverted off of US 93 to avoid the need for improvements to be made on US 93. In addition, there were concerns about future land use impacts if this road was developed into a third major transportation corridor in the valley.

2.3.1.3 Whitefish Stage Road

Whitefish Stage Road is a narrow two-lane facility with no shoulders and steep ditch sections. It is located approximately 1.61 kilometers (one mile) east of US 93 between Kalispell and Whitefish. The cross-section is a 6.71- to 7.32-meter (22- to 24-foot) paved roadway with a 18.3-meter (60-foot) right-of-way. Current posted speed varies between 35 mph [the north 1.29 kilometers (0.8 miles)] and 45 mph.

The following improvements to this facility have been assumed:

- Improving horizontal and vertical geometry to meet two-lane road standards.
- Improving the intersection of Whitefish Stage Road to MT 40.
- Improving the pavement section between MT 40 and Reserve Drive.

This alternative is not considered reasonable since not enough traffic will be diverted off of US 93 to avoid the need for improvements to be made on US 93. In addition, there were concerns about future land use impacts if this road was developed into a third major transportation corridor in the valley. Other environmental impacts of concern include historic property impacts and wetland impacts.

2.3.1.4 Somers West Loop

There is a cleared area west of the town of Somers which is jointly used for a powerline. There is no road in this cleared area.

The following improvements to this facility have been assumed:

- Intersection improvements for both the northern and southern intersections to existing US 93.
- Full development of paved sections and clear zone area.

A plan and profile was developed along this alignment and the minimum grades required were greater than 10%. Deep cuts or a tunnel would be required to develop a roadway on this alignment. For this reason, a cost estimate was not developed. Other environmental impacts of concern include effects to an existing residential area, major adverse visual impacts and ongoing erosion problems. This alternative is so costly and technically difficult that it is not considered a reasonable alternative to assess in the Draft EIS.

2.3.1.5 New Western or Eastern Corridors

These concepts assume that a completely new corridor would be developed either east or west of US 93. The corridor would be developed to full design standards. Approximately 14.18 to 24.3 hectares (35 to 60 acres) of additional right-of-way would be required.

This alternative is not considered reasonable since not enough traffic will be diverted off of US 93 to avoid the need for improvements to be made on US 93. In addition, this alternative is not consistent with Flathead County future land use goals; there were concerns about future land use impacts if this road was developed into a third major transportation corridor in the valley. Other environmental impacts of concern include an increased potential of encountering cultural material of significance and wetland and floodplain impacts.

2.3.1.6 Other Corridors Considered

Three other parallel corridors were considered:

- Improvements to US 2 (from Kalispell to Columbia Falls), which were not advanced because a project which widens US 2 to four lanes has already been approved by MDT and is scheduled to be under construction. In addition, improvements to US 2 would not provide for traffic currently using US 93 because of an origin or destination along US 93 and would thus not meet the purpose and need for the project.

- Improvements to East Shore/MT 35, which was not advanced because this alternative would only relieve traffic solely destined to Glacier National park, thus not providing for purpose and need. This could also change land use patterns in the Valley.

- Development of a new corridor using the Somers west loop, then following along the western edge of the Flathead Valley to ultimately connect to Farm-to-Market Road. This alternative would not divert enough traffic off US 93 to avoid the need for improvements to be made to US 93. In addition, it was found to create significant environmental impacts to Section 4(f) (Lone Pine State Park) and archaeological resources, would not be responsive to future land use goals and would be expensive.

2.3.2 Group of Kalispell Bypass Alternatives

Possible locations for a bypass of the City of Kalispell were previously identified as part of the *Kalispell Area Transportation Plan and Bypass Feasibility Study*, CRSS, August 1993 (Figure 2-5). These alternatives assume that development of the bypasses would reduce through traffic (automobile and truck) in the downtown areas and supplement the city's transportation network such that operations on existing US 93 would be improved.

A discussion of specific alternatives within this group follows:

2.3.2.1 Kalispell Alternative A

- Begins at US 93 South and BN railroad south of Kalispell.

- Follows the BN Railroad, a distance of about 1.61 kilometers (one mile), crossing Airport Road.

- Continues along BN Railroad alignment to Foy's Lake Road, approximately 3.22 kilometers (two miles).

- Follows Foy's Lake Road to Whalebone Road and Whalebone Road to W. Springcreek Road, approximately 3.22 kilometers (two miles).

- Follows W. Spring Creek Road north to Reserve Drive, approximately 5.63 kilometers (3.5 miles), crossing US 2, Three Mile Drive, and Four Mile Drive.

- Follows Reserve Drive east to US 93, approximately 3.22 kilometers (two miles).

This alternative is not considered reasonable, since not enough traffic would use this bypass to relieve traffic on US 93.

2.3.2.2 Kalispell Modified Alternative B

- Is identical to Alternative B south of US 2. Alternative B is described in Section 2.4.2.4.

- Follows US 2 east to North Meridian Road.

Figure 2-5

Possible Bypass Corridors for Kalispell Area

- Follows North Meridian Road from US 2 to US 93 north.
- Follows existing US 93 north of Meridian.

This alternative is not considered reasonable because it is inconsistent with the approved master plan, it provides very little relief of traffic on US 93 north of Kalispell to Reserve and it has negative social and Section 4(f) impacts.

2.3.2.3 Kalispell Alternative C1

- Begins at US 93 South and Lower Valley Road (Four Corners intersection).
- Follows Willow Glen Drive north crossing Woodland Avenue, to Conrad Drive, approximately 4.03 kilometers (2.5 miles).
- Follows Conrad Drive east approximately 0.8 kilometer (0.5 mile).
- Extends north of Conrad on a new road alignment to the intersection of US 2/LaSalle Road/MT 35, approximately 1.13 kilometers (0.7 mile).
- Crosses US 2/MT 35 and extends along existing LaSalle Road to Reserve Drive, approximately 2.57 kilometers (1.6 miles), crossing Evergreen Drive.
- Follows Reserve Drive west to US 93, approximately 4.03 kilometers (2.5 miles), crossing the BN Railroad tracks, the Whitefish River, Whitefish Stage Road and the Stillwater River.

This alternative is not considered reasonable because **of its substantial** socioeconomic and wetland impacts.

2.3.2.4 Kalispell Alternative C2

- Begins at US 93 South and Lower Valley Road (Four Corners intersection).
- Extends north on a new road alignment along the west side of the Flathead River [about 183 meters (600 feet) east of Willow Glen Drive] to Conrad Drive.
- Is identical to Alternative C1 for the remaining corridor.

This alternative is not considered reasonable because **of its substantial** socioeconomic, wetland, floodplain and Section 4(f) impacts.

2.3.2.5 Kalispell Alternative D

- Begins at US 93 south and Demersville Road.
- Follows Demersville Road north approximately 3.22 kilometers (two miles) to Lower Valley Road.

- Follows Lower Valley Road east, crossing the Flathead River north of Foy's Bend, then east, curving to the north and extending north generally along Fairmont Road to MT 35, approximately 7.24 kilometers (4.5 miles).

- Extends west along MT 35 approximately 1.61 kilometers (one mile), crossing the Flathead River, then turning north about .322 kilometers (0.2 miles) east of Helena Flats Road, extending north approximately 1.61 kilometers (one mile) to Reserve Drive.

- Follows Reserve Drive west to US 93, approximately 5.95 kilometers (3.7 miles), crossing Helena Flats Road, US 2, the BN Railroad tracks, the Whitefish River, Whitefish Stage Road and the Stillwater River.

This alternative is not considered reasonable because it does not meet purpose and need and would have greater environmental impacts on wetlands, floodplain and endangered species.

2.3.2.6 Kalispell Alternative F

- Identical to Alternative B except the alignment follows the powerline corridor to intersect at approximately Reserve and US 93. Alternative B is described in Section 2.4.2.4.

This alternative is not considered reasonable because **of its substantial** potential Section 106 impacts and difficulty in using the State Land Board property.

2.3.2.7 Kalispell Alternative B Extended

An alternative was developed to extend Alternative B farther north before turning east to meet US 93.

This alternative is not considered reasonable for the following reasons:

- The greater amount of rolling terrain would increase cut and fill costs.

- There was public opposition to this alternative when it was considered as a part of the *Kalispell Bypass Study*.

- It would require a second crossing of the Stillwater River with associated wetland, riparian and wildlife habitat impacts.

2.3.3 Group of Whitefish Bypass Alternatives

The purpose of a bypass around the downtown area of Whitefish was to provide an alternate route for that traffic (especially trucks) that is not destined for somewhere in Whitefish. As in Kalispell, the intent of the bypasses is to reduce through traffic in Whitefish such that operations on US 93 would be improved. Bypasses of Whitefish have been studied previously (by the City of Whitefish) but not found to be feasible. Bypasses and other improvements to traffic operations in and around Whitefish are being studied as a part of the *Whitefish Traffic Operations Study*, being conducted by Carter & Burgess. Recommendations from this study are anticipated in **the fall of** 1994.

Through the public scoping process, five bypass alternatives were developed for the Whitefish area (Figure 2-6). In addition, two alternatives (shown on Figure 2-6 as Alternative F and G) were developed to improve overall traffic operations on US 93 through the downtown area of Whitefish.

A discussion of specific alternatives within this group follows:

2.3.3.1 Whitefish Alternative A

This alternative begins approximately 2.73 kilometers (1.7 miles) south of the MT 40 intersection with US 93 and proceeds in a northwesterly direction. This alternate:

- Follows an east-west existing dirt road for the first 2.73 kilometers (1.7 miles).
- Proceeds north through natural drainage swales.
- Cross-section: two-lane with shoulders.

This alternative is not considered reasonable, since not enough traffic diversion off of US 93 would occur. This alternative was found based on the traffic modeling to divert less than one percent of US 93 traffic. There was substantial public opposition to this alternative.

2.3.3.2 Whitefish Alternative B

This alternative was studied earlier by the City of Whitefish. It crosses the middle of Blanchard Lake and generally passes between two ridges where steep side slopes may be present. Cut and fill slopes could be extensive, especially west of Blanchard Lake. This alternate:

- Begins at the MT 40/US 93 intersection.

- Proceeds west to a crossing of Blanchard Lake, where a bridge of 305 meters (1,000 feet) is required.

- Terminates at US 93 in the vicinity of a 6 degree curve and 6 percent vertical grade (undesirable conditions).

- Cross-section: two-lane with shoulders.

This alternative is not considered reasonable, since not enough traffic diversion (two to three percent) off of US 93 would occur according to the traffic modeling that was done. In addition, its **substantial** wetland and floodplain impacts are of concern. There was substantial public opposition to this alternative.

2.3.3.3 Whitefish Alternative C

This alternative follows the powerline easement and intersects with US 93 north of Blanchard Lake. It passes through rolling terrain south of Blanchard Lake, basically following an existing gravel access road which is adjacent to numerous residences and provides access to the boat launching area at Blanchard Lake. This alternative:

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Figure 2-6

Possible Bypass Corridors for Whitefish Area

- Begins at the US 93/MT 40 intersection.
- Proceeds along the same alignment as Alternative B for the first 2.41 kilometers (1.5 miles).
- Follows the eastern side of Blanchard Lake, along the Hungry Horse to Triega Power Line [within a 30.5-meter (100-foot) right-of-way].
- Terminates at US 93.
- Cross-section: two-lane with shoulders.

This alternative is not considered reasonable, since not enough traffic diversion (two to three percent) off of US 93 would occur, according to the traffic modeling that was done. There was also substantial public opposition to this alternative.

2.3.3.4 Whitefish Alternative D

This alternative begins at the MT 40/US 93 intersection, proceeds near the powerline easement and then follows along Karrow Avenue north to US 93.

The existing cross-section of Karrow Avenue is a 6.1- to 6.7-meter (20- to 22-foot) paved roadway. This alternate:

- Begins at the US 93/MT 40 intersection.
- Proceeds along the same alignment as Alternative B for the first 2.25 kilometers (1.4 miles).
- Then proceeds northerly along Karrow Avenue.
- Terminates at an intersection east of the golf course and west of Whitefish River.

This alternative is not considered reasonable, since it does not divert enough traffic off of US 93 to improve traffic operations. This alternative has negative socioeconomic impacts **(increased noise, decreased property value, increased accident potential for pedestrians and bicyclists)** and there was substantial public opposition to this alternative.

2.3.3.5 Whitefish Alternative E

This alternative consists of an extension of Whitefish Stage Road north to connect to Second Street east of downtown Whitefish. It bypasses only a portion of the City of Whitefish. It would require a new crossing of the Whitefish River. This alternative:

- Extends from the south from the MT 40/Whitefish Stage Road intersection.
- Crosses the Whitefish River on a 61-meter (200-foot) long structure.
- Proceeds north along a section line until it intersects with Second Street.

- Second Street provides access back to US 93.

- Cross-section: two-lane with shoulders.

This alternative is not considered reasonable, since it does not divert enough traffic off both Spokane and Second to improve operations on these streets. There was some public opposition to this alternative.

2.3.3.6 Whitefish Alternatives F and G

These alternatives were advanced for further study and are described in Section 2.4.2.

2.3.4 Other Highway Construction Alternatives

A number of different highway construction alternatives in the vicinity of US 93 were considered but not advanced. These included:

- Construction of a four- or five-lane segment west of the intersection of Second and Baker Streets in Whitefish. This alternative was not advanced because future traffic projections in this area indicated that a two- or three-lane cross-section was sufficient to meet projected traffic demands.

- Construction of a two-or three-lane section for the majority of the corridor. This alternative was not advanced because it would not meet purpose and need. Future level of service analyses indicate the level of service (LOS) E or F would be experienced for much of the corridor, if additional capacity is not added.

- Construction of a frontage road south of Kalispell from Four Corners to 13th Street. This concept was not advanced because of unacceptable property impacts to numerous existing businesses.

- Construction of split alignments north of Kalispell that impacted wetland areas. These were modified to avoid wetland impact as much as possible.

- Construction of a two-lane section for Kalispell Alternative B north of Two Mile. This was insufficient to meet Year 2015 travel demands and would thus not meet project purpose and need.

- Construction of a portion of Kalispell Alternative B north of Foy's Lake Road which was located parallel to Ashley Creek. This portion of Alternative B was not advanced because of greater wetland and floodplain impact and greater impact to an existing residential area.

- **Inclusion of a left-turn lane between Airport and Ninth in Kalispell. This was not included because it would result in impact to the trees south of the courthouse. Provision for access from northbound US 93 to northbound First Avenue West may be accommodated at the traffic signal at 18th.**

- **Conversion of First Avenues East and West in Kalispell to a one-way couplet. This alternative was not advanced because there was no noticeable increase in capacity provided, so the bypass would still be needed.**

- **Inclusion of a single southbound lane on Spokane, along with the C-3 alternative. This alternative was not advanced because it would have many of the impacts of the four-lane alternative (no provision of left-turns, no provision for parking or bike lanes and some impacts to the trees). There would also be some safety concerns similar to the C(OFF-SET) alternative.**

- **Inclusion of split alignments (as shown in the Draft EIS on Figures 2-26 and 2-27). These were not recommended because of a greater impact to prime farmland and increased right-of-way needed.**

2.3.5 Group of Mass Transit Options

Several options for mass transit were considered but not advanced, including:

- Fixed guideway.
- Bus system improvements.
- High occupancy vehicle lanes.

Fixed guideway options which were evaluated include:

- Light rail transit.
- Commuter rail transit.
- Dedicated busway.
- Elevated rapid transit (such as monorail or personal rapid transit).

In rural areas, the share of trips that would likely be carried by a fixed guideway system is less than one percent. If a fixed guideway system were implemented without additional capacity improvements to US 93, the future travel demands along US 93 would not be met. Traffic would operate at unacceptable congestion levels and safety conditions would not be improved. In addition, the large operating costs ($4 to $25 million annually) for a fixed guideway system would exceed the financial capacity of any public agency currently in the Flathead Valley. For these reasons, fixed guideway options were not advanced.

Numerous options were considered to improve the bus system. These included:

- Expanded Eagle Transit service (more coverage, more frequent service; focused on commuters, shopping, school, tourist destinations).

- Development of a transit center in downtown Kalispell, which could serve as a focal point for intercity buses, taxis and Eagle Transit.

- Expanded Flathead Area Shuttle Transport (FAST) service.

- Development of paratransit services (shared taxi, van transit, employer operated shuttles and vans, dial-a-ride).

- Expanded Rocky Mountain Transportation bus services (which primarily serve tourist trips).

- Regularly scheduled tourist buses, from hotels to RV Parks to Glacier National Park, lakes and resorts.

These alternatives were not advanced for the following reasons:

- They would not solve future travel demand on US 93. Traffic congestion would continue to increase and safety conditions would not be implemented.
- The operating costs of an expanded tri-city bus system could not be covered without a public subsidy.

High-occupancy vehicle (HOV) lanes or lanes designated as HOV use during peak periods were considered. This alternative was not advanced for the following reasons:

- It would exacerbate existing traffic congestion in the general purpose lanes.
- It would likely only result in a decrease in travel of five to ten percent, which is insufficient to meet future travel demand on US 93.

2.3.6 Group of Transportation Demand Management (TDM) Options

TDM type options which were evaluated include:

- Increased telecommuting.
- Variable work hours (which reduces traffic during peak travel times).
- Employer-based carpool and vanpool programs.
- Parking management (increases in parking pricing, reducing parking supply, priority in parking given to carpools or vanpools).

These strategies were not advanced for the following reasons:

- These strategies are primarily directed at commuter travel or travel that occurs on a regular basis. These strategies can reduce single-occupant travel by two to five percent, but if the commuter trips in the summer peak months only represent approximately ten to 15 percent of total trips, then less than one percent of overall travel would likely be reduced.
- There are only a few large employers along US 93 who could implement a carpool or vanpool program.
- The long-term effectiveness of TDM measures is questionable and could only be improved by a strong commitment from major employers.
- For all of these reasons, TDM strategies (by themselves) were determined to not meet the future travel demand on US 93. They should continue to be encouraged, however, for implementation by major Flathead County employers.

2.4 Alternatives Advanced

The following section provides information about those reasonable alternatives which are analyzed in more detail in Chapters 4 and 5 of this Draft EIS. Information provided in this section represents the best information available from corridor studies completed at a conceptual design level of detail. Details about the alternatives will be completed during the final design process.

2.4.1 No-Build Alternative

The No-Build Alternative for US 93 consists of the existing US 93 cross-section with some already committed highway improvements and minor, short-term maintenance or safety enhancements. These projects are defined in the Statewide Transportation Improvement Program. They include improvements to US 2, Main Street (Kalispell), MT 35, MT 82, Meridian Road (Kalispell), Baker Avenue (Whitefish) and the Whitefish Viaduct over the Burlington Northern Railroad.

This alternative could also include Transportation System Management (TSM) measures, such as are listed in Section 2.4.4.5.

2.4.2 Build Alternatives

One location alternative (Alternative A) is being analyzed for the entire corridor. Alternative A is located along the existing US 93 corridor. In the Whitefish and Kalispell areas, two additional location alternatives (B and C) are under evaluation in this document (see Figure 2-7). Appendix A of this document includes more detailed drawings of these alternatives.

In different segments of the corridor, different lane configurations for the different location alternatives (A, B and C) are under consideration. The alternatives have been named using the following system:

- A capital letter (A, B or C) based on the location of the alternative, as shown on Figure 2-7.
- Additional descriptive information is provided in parentheses. This information designates a particular design concept. The design concepts are primarily related to different lane configurations.

By segment, these alternatives are:

Segment	Alternatives Being Considered
1. Somers to Kalispell	No-Build, A(MEDIAN), A(TURN-LANE), A(COMBO)
2. Kalispell Area	No-Build, A*, A plus B(MEDIAN), A plus B(TURN-LANE)
3. Kalispell to Whitefish	No-Build, A(MEDIAN), A(TURN-LANE), A(COMBO)
4. Whitefish Area	No-Build, A(FOUR-LANE), C(OFF-SET), C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)
5. Baker to Karrow and West of Whitefish	No-Build, A*
6. Karrow Avenue to MP 129	No-Build, A(MEDIAN), A(TURN-LANE)

**The Alternative A concepts in Kalispell and west of Whitefish differ from the rest of the corridor and are described in Section 2.4.2.5.*

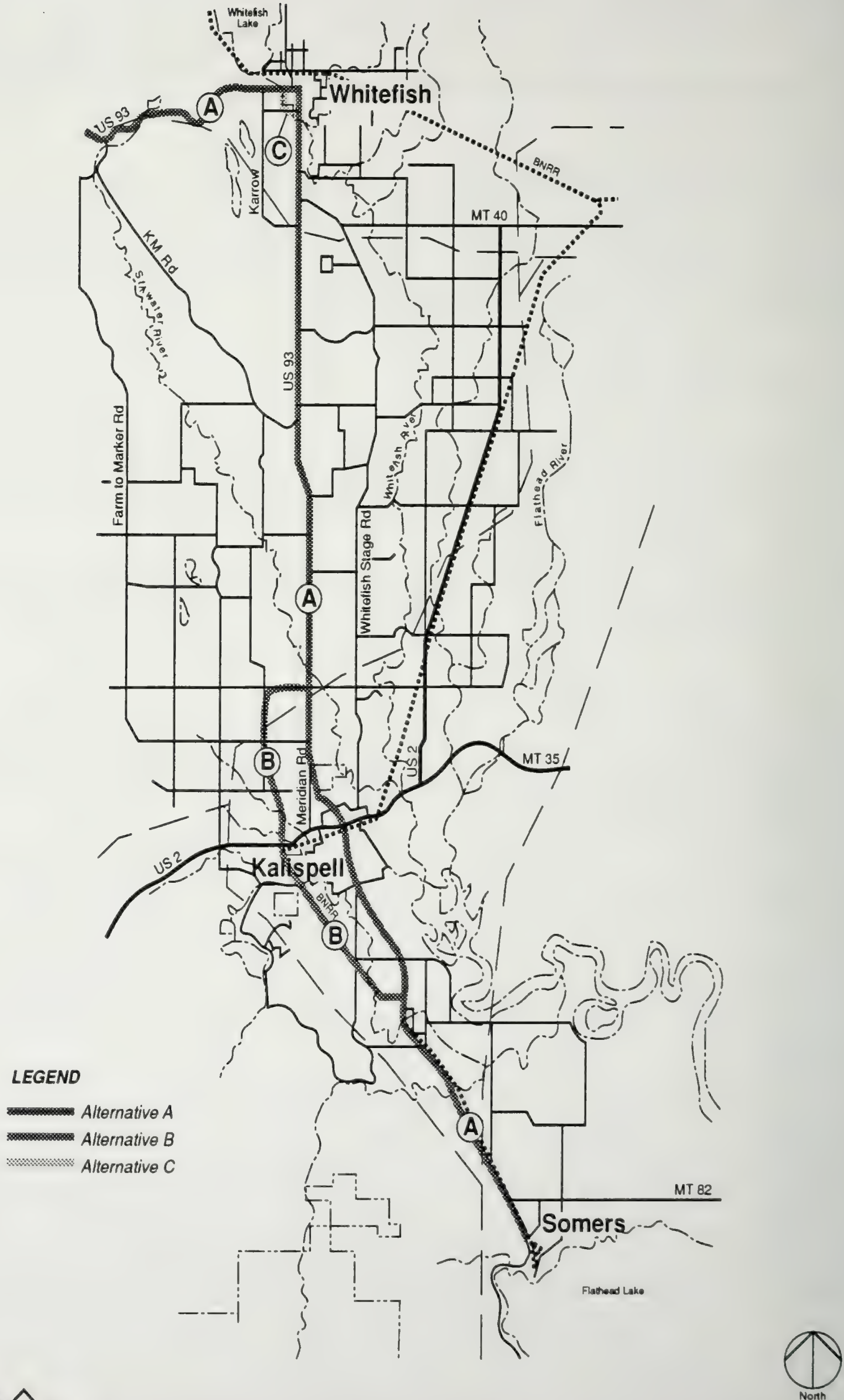

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Figure 2-7
Reasonable Location Alternatives

The design volume used for each of the alternatives is summer average daily traffic.

Descriptions of each of these alternatives follow.

2.4.2.1 Alternative A(MEDIAN)

This alternative would reconstruct US 93 in basically the same corridor as it currently exists. The roadway would be widened to meet capacity requirements of two travel lanes in each direction with provisions for left turns.

Alternative A(MEDIAN) was developed with the intent to focus primarily on through trips, while reducing congestion and enhancing safety. During the public involvement process, this alternative was called the Maximum Capacity Concept. These trips primarily serve the longer distance commuter, the regional recreational driver, and the local commuter. The base design is a four-lane facility with either a raised or depressed median (Figure 2-8). Median types were chosen based on the urban versus rural nature of the adjacent land use (Figure 2-9).

Alternative A(MEDIAN) has a different typical section in the segment west of Whitefish between Karrow Avenue and **west of Lion Mountain Road** approximately Milepost 129. In this segment, the section includes two through lanes plus a 2.44-meter (eight-foot) shoulder separated by a raised median, as shown on Figure 2-8 **(Section L)**.

The median type is a function of the design speed, right-of-way available, and the character of the **adjacent land use** (rural or suburban). Median designs could include depressed with low maintenance landscaping, raised with hardscape such as patterned concrete, or landscaping, or flush with patterned concrete, or some other kind of texture. These concepts provide for a design speed of 70 mph desirable in the rural areas **(with a depressed median)** and 50 mph desirable in the urban areas **(with a raised median)**. Speed limits will be set based on an engineering analysis of the roadway, **including** road user characteristics and safety. **All raised medians will be lighted for safety reasons.**

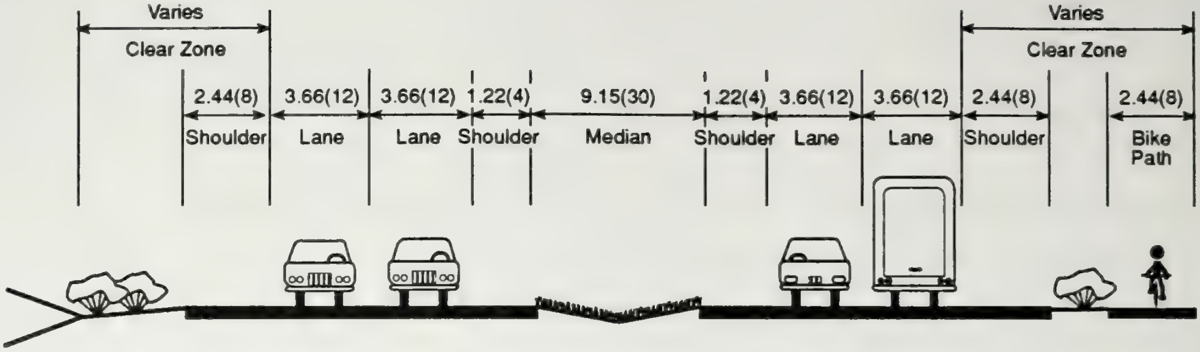
This alternative also assumes frontage roads and access consolidation as described in more detail in Section 2.4.2.3.

2.4.2.2 Alternative A(TURN-LANE)

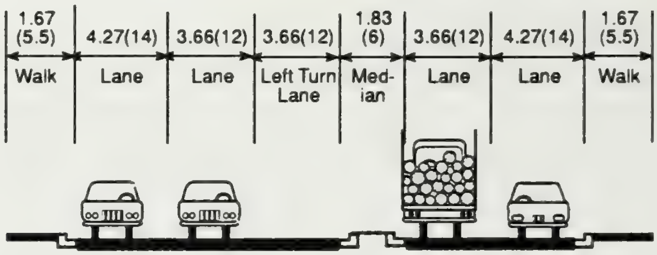
This alternative would also reconstruct US 93 in basically the same corridor as it currently exists.

Alternative A(TURN-LANE) is intended to serve local residential and commercial trips, as well as to reduce congestion and enhance safety. During the public involvement process, this alternative was called the Maximum Accessibility Concept. The geometric design is four through lanes with a fifth lane provided for a two-way **center** left-turn lane with 70 mph desirable in rural areas and 50 mph desirable in urban areas. Speed limits will be set based on an engineering analysis of the roadway, **including** road user characteristics and safety. The design for the left-turn lane is a continuous two-way left-turn lane which removes the deceleration of the left turning vehicle from the through traffic (Figures 2-10 and 2-11).

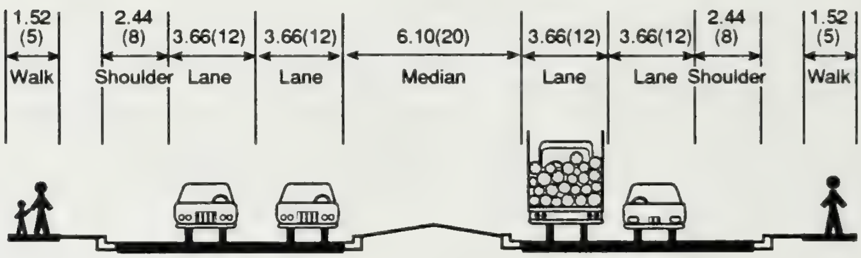
Alternative A(TURN-LANE) has a different typical section west of Whitefish between Karrow Avenue and approximately Milepost 129. In this area, it consists of two through lanes (one each direction) with shoulders and a third center turn lane.



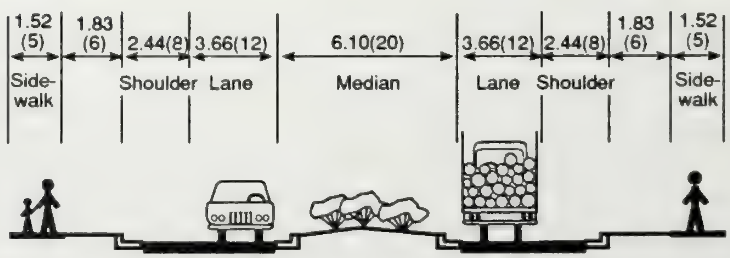
A **Depressed Median**



E **Raised Median/Left-turn Lane • Urban Section**



F **Raised Median • Urban Section**



L **Raised Median • Two-Lane Section**

Notes:

1. For Sections A & F, all measurements are in meters (feet) to edge of pavement.
2. For Sections E & L, all measurements are in meters (feet) to face of curb.

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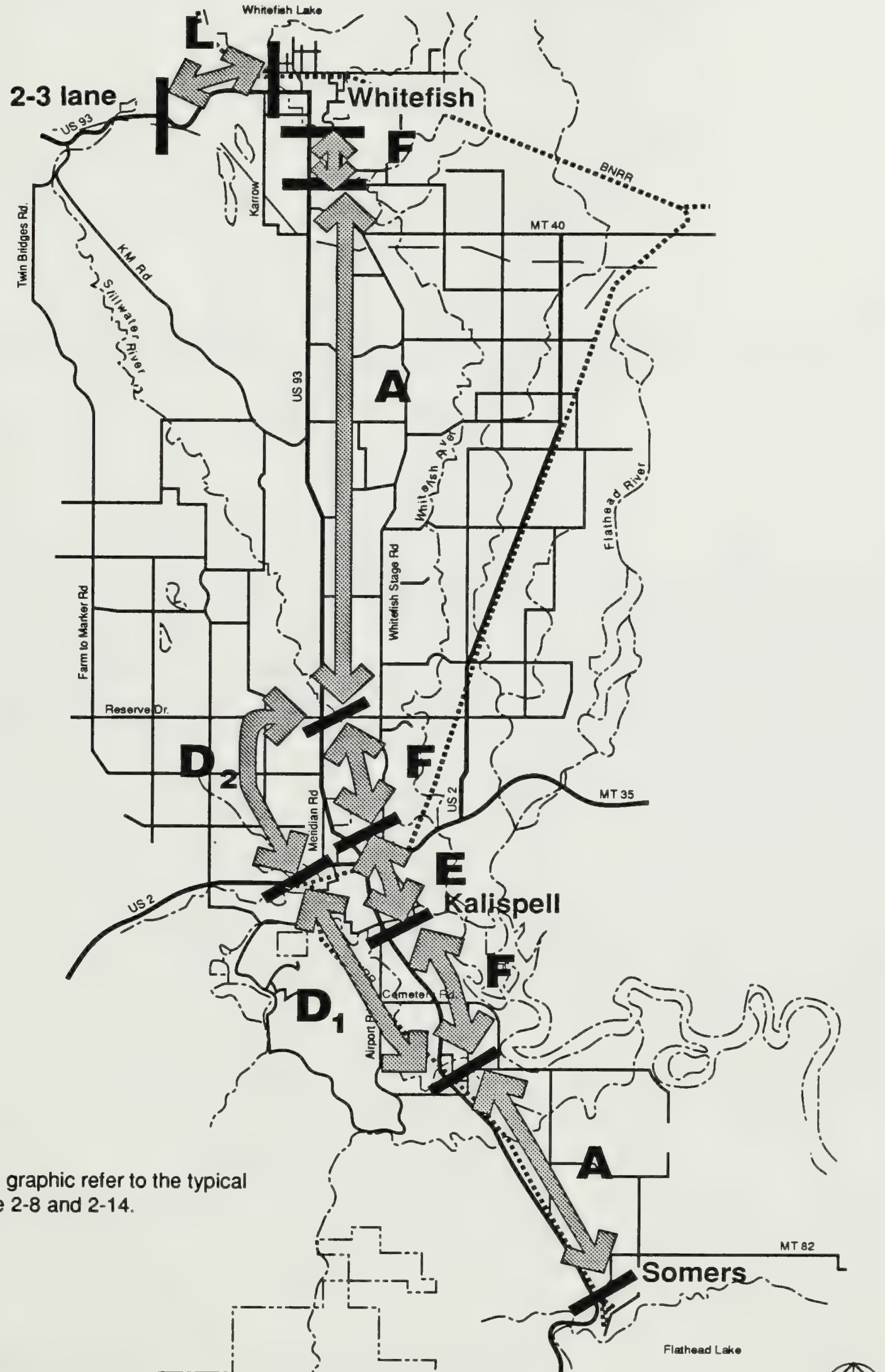
Figure 2-8

Typical Sections • Alternative A (MEDIAN)



Note:
The letters on this graphic refer to the typical sections on Figure 2-8 and 2-14.

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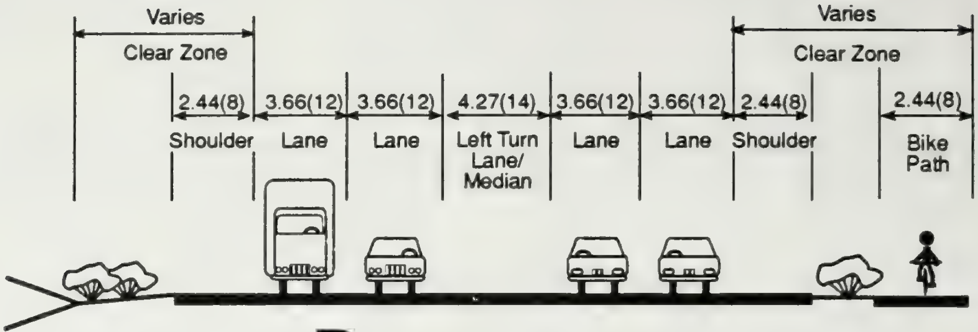
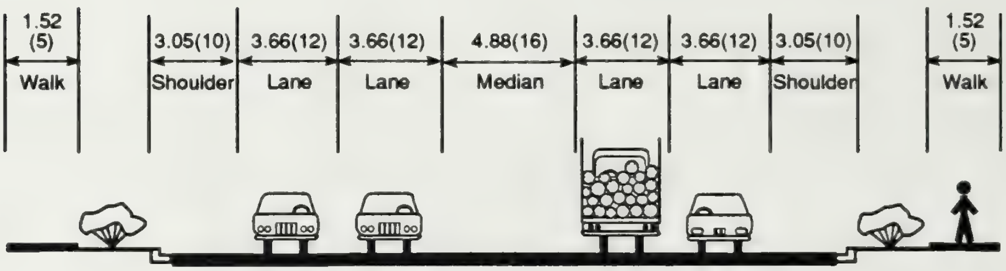
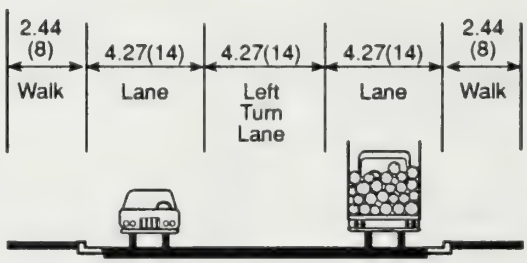
Figure 2-9
Alternative A (MEDIAN)



B 5-Lane • Rural Section



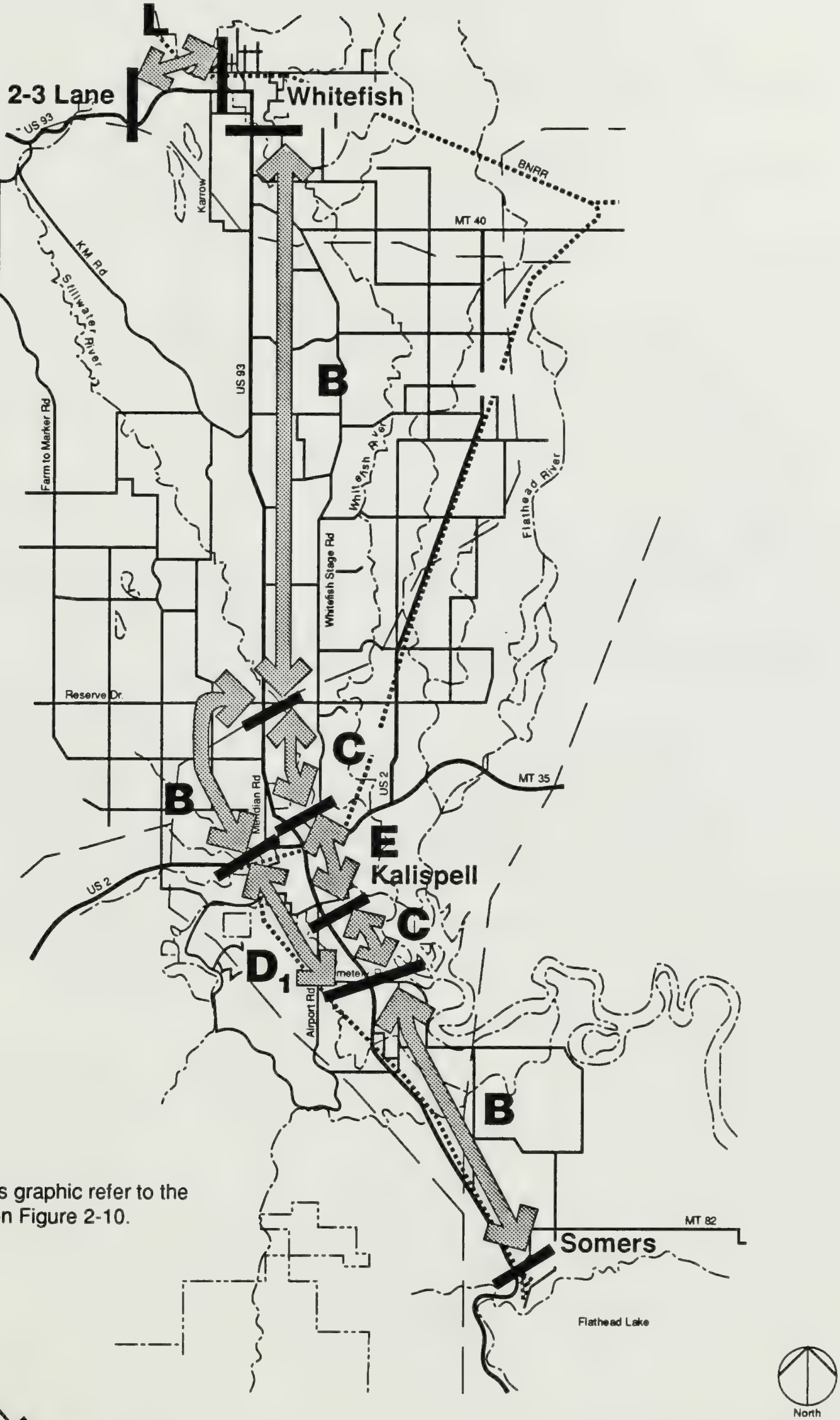
C 5-Lane • Urban Section



K 3-Lane • Urban Section

Notes:
1. For Section B, all measurements are in meters (feet) to edge of pavement.
2. For Sections C & K, all measurements are in meters (feet) to face of curb.

Figure 2-10
Typical Sections • Alternative A (TURN-LANE)



Note:
The letters on this graphic refer to the typical sections on Figure 2-10.

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Figure 2-11
Alternative A (TURN-LANE)

No truck U-turns or frontage roads are needed. Transition areas are also included to ensure a safe transition from different cross-sections.

2.4.2.3 Alternative A(COMBO)

Alternative A(COMBO) combines cross-sections and features from both Alternatives A(MEDIAN) and A(TURN-LANE). This alternative **(shown on Figure 2-12)** was developed to respond to the characteristics of a particular segment along US 93. Divided four-lane sections are used where right-of-way or environmental resources are not a major constraint or where existing access requirements are not a major factor. Undivided four- or five-lane sections are recommended where right-of-way is a constraint or where there is a need to provide for numerous existing accesses.

The Alternative A(COMBO) which is illustrated on Figure 2-12 is slightly different from the A(COMBO) which was assessed in the Draft EIS.

This alternative has been selected as the preferred alternative, as described in Section 2.6.

Frontage roads (such as on Figure 2-13) **have been included** to provide adequate side access adjacent to the divided highway locations **and to accommodate for truck U-turns**. Frontage road locations which have been assumed are:

a. Provide new frontage road along west side of US 93 from Forest Hill Road to Fir Terrace. **This has been shortened based on input received during the public hearing process.**

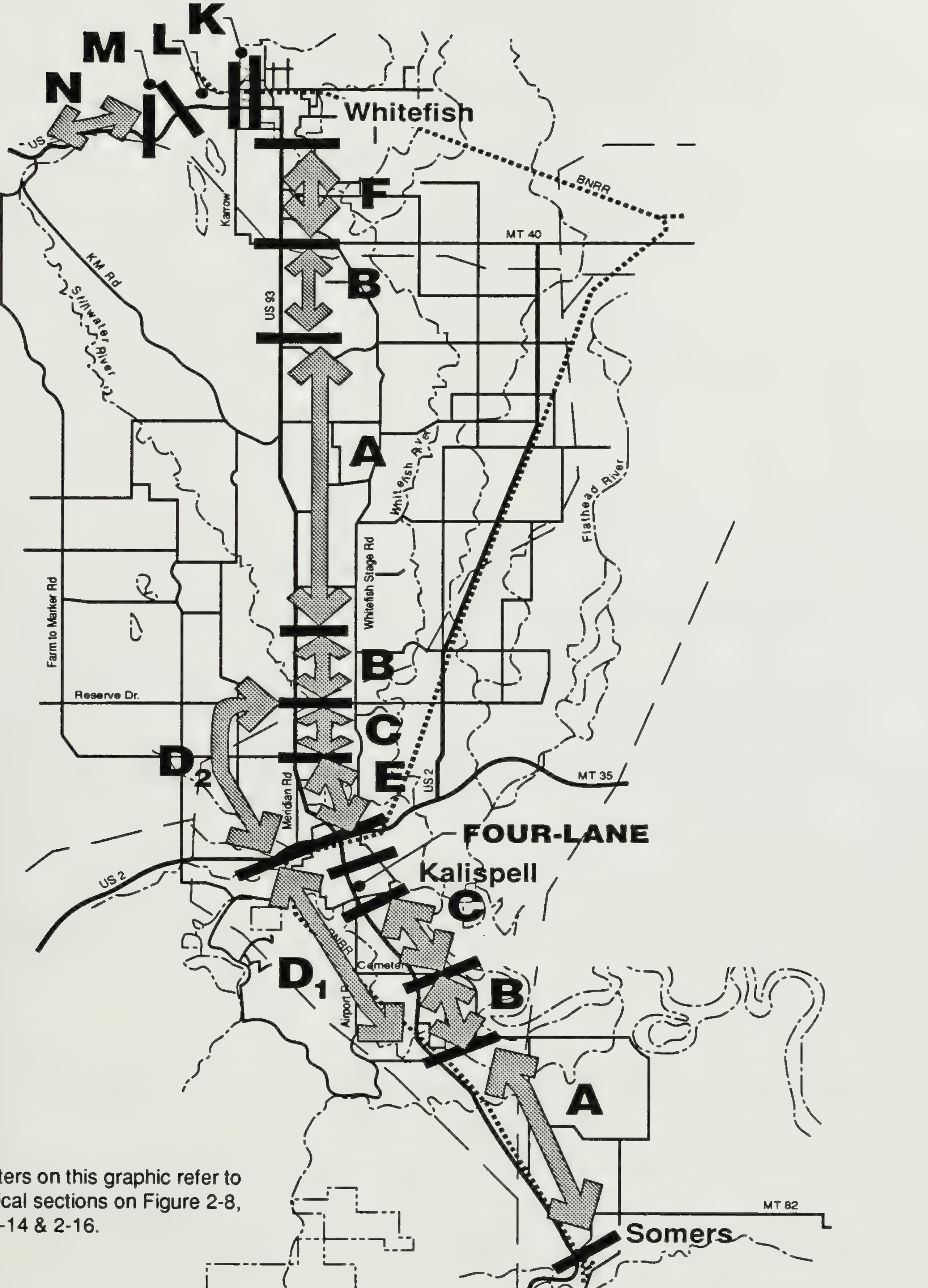
b. Use of **Antelope Trail Road** in Happy Valley from **Bowdish** Road to **Timber Lane. Antelope Trail Road would be extended south to Bowdish Road to allow access to the frontage route from that intersection**.

c. Provide new frontage road on the east side of US 93 just north of Scenic Ridge Road.

Transition areas are also included to ensure a safe transition from different cross-sections.

Consolidation of access that has been assumed is:

- Between Ball's Crossing and Airport Road, consolidate driveways and close multiple drives.
- From Idaho to Wyoming Street, reconstruct a raised median to develop left-turn lanes. Parking will be eliminated.
- From **Grandview** to Reserve, **consolidate driveways where possible**.
- From Reserve to north of Stillwater River, consolidate driveways on the east side.
- From KM Road to JP Road, close and consolidate driveways where possible.
- North of Blanchard Lake Road, consolidate access on the west side.
- From JP Road to Columbia Avenue, consolidate driveways where possible.



Note:
The letters on this graphic refer to the typical sections on Figure 2-8, 2-10, 2-14 & 2-16.

Somers to Whitefish
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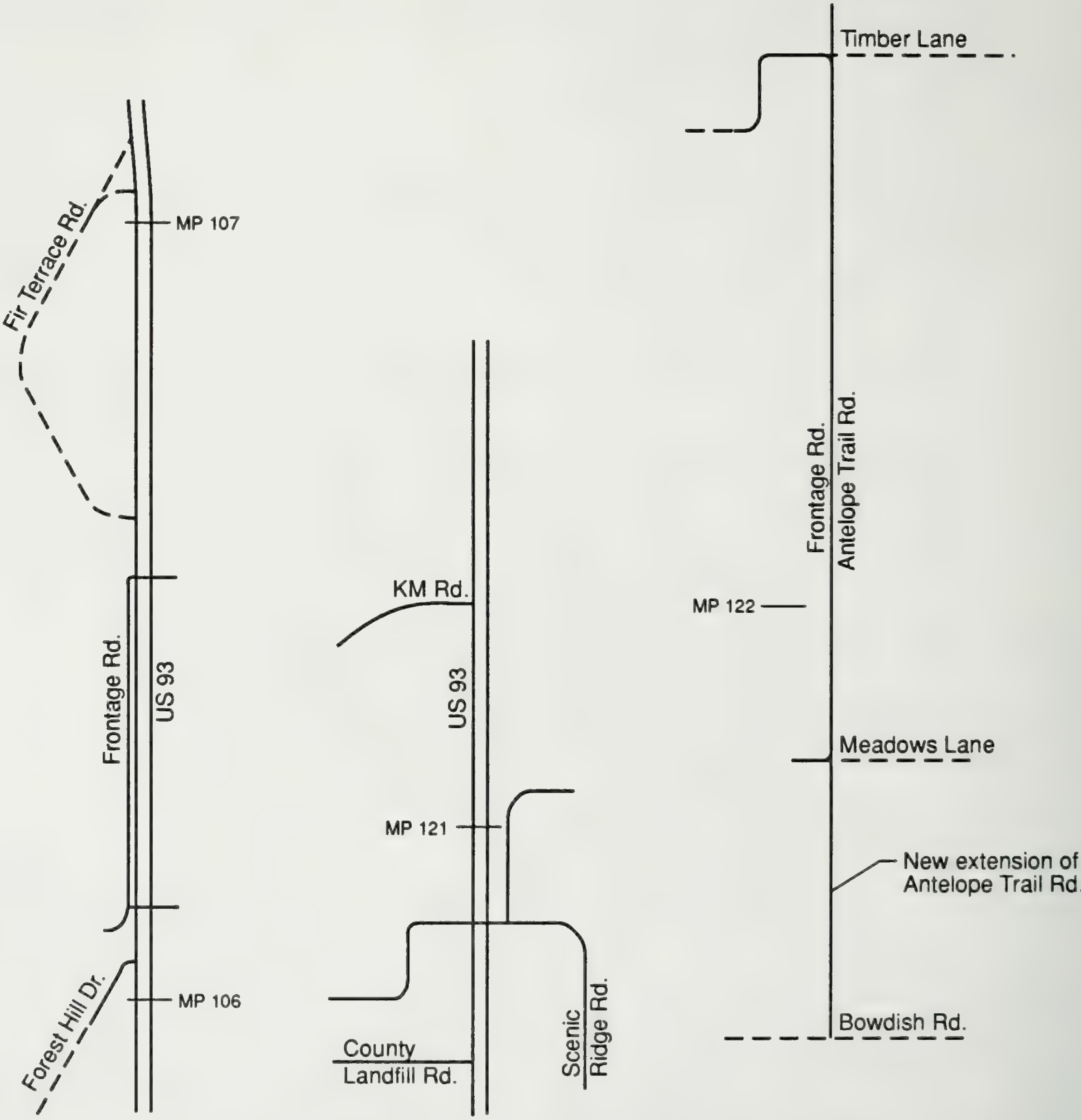
Figure 2-12
Alternative A (COMBO)



West side of US 93
Forest Hill Rd. to
Fir Terrace Dr.

East side of US 93
just north of Scenic
Ridge Rd.

Antelope Trail Rd. in
Happy Valley
Bowdish to Timber Lane

North

Figure 2-13
Frontage Road Locations

The following assumptions have been made throughout the corridor about the general location of the new centerline compared to the existing centerline. Off-set locations are approximately 6.1 to 9.15 meters (20 to 30 feet) away from the existing centerline. These assumptions are based on a conceptual level analysis of aerial photography:

- Segment 1 (MT 82 to Rocky Cliff Road) east offset.
- Segment 2 (Rocky Cliff Road to North of Stillwater River) centered location.
- Segment 3 (North of Stillwater River to Schrade Road) west offset.
- Segment 4 (Schrade Road to KM Road) east offset.
- Segment 5 (KM Road to MP 122.7) west offset.
- Segment 6 (MP 122.7 through and west of Whitefish) centered location.

This alternative also includes the following assumptions:

- Right-of-way in urban sections which is wide enough to accommodate a future raised median.
- Accommodations for future raised median specifically for pedestrians in the Happy Valley area, if such pedestrian volumes warrant this treatment in the future.
- From MT 40 to the Whitefish River, the raised median is assumed to be constructed when traffic volumes warrant the raised median. If construction occurs prior to this time, a five-lane alternative is assumed.

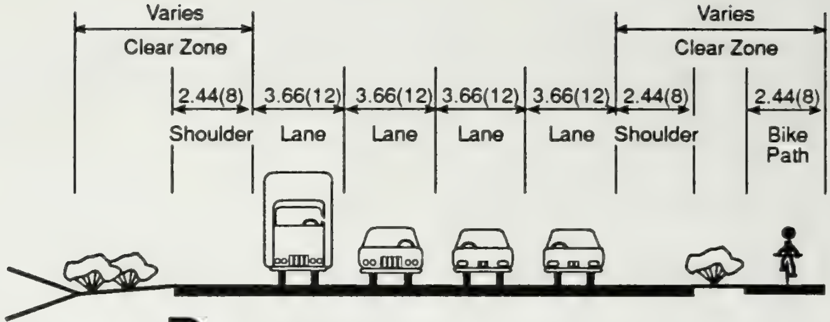
2.4.2.4 Kalispell Area Alternatives

The following cross-sections are assumed for the general Kalispell area, both within town (along Main Street) and along the bypass:

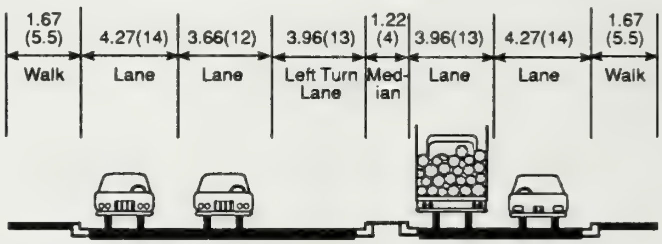
2.4.2.4.1 Kalispell Main Street

Figure 2-14 illustrates the recommended cross-sections along Main Street through Kalispell. They include:

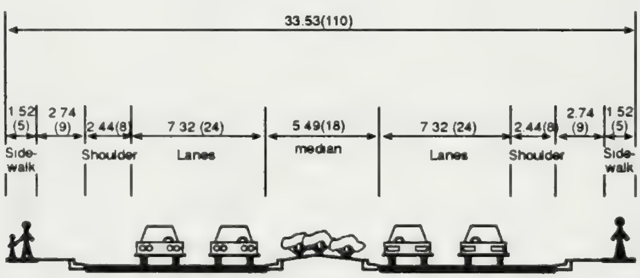
- From Airport Road to Ninth Street, four 3.66-meter (12-foot) through lanes are proposed with curb and gutter and sidewalks.
- From Idaho to Wyoming, four lanes with a narrow raised median and turn lanes at intersections.
- On-street parking would be removed for approximately three blocks south of Ninth Street, north of Idaho and Center to Idaho.
- Urban five-lane section with curb and gutter between Grandview and Reserve; rural five-lane section with shoulders between Grandview and MP 117.



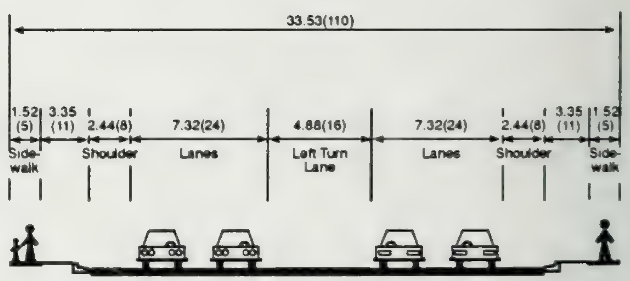
D$_1$ **BYPASS**
4-Lane • Rural Section (south of US 2)
Note: All measurements are in meters (feet) to edge of pavement.



E **Raised Median/Left-turn Lane (Idaho to Wyoming)**
Note: All measurements are in meters (feet) to face of curb



OR



D$_2$ **B (MEDIAN) (Bypass)**

D$_3$ **B (TURN-LANE) (Bypass)**

(Alternative section north of US 2)

Note:
Right-of-way for Alternative D$_2$ will be reserved; however the actual design built could be D$_2$ or D$_3$.

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Figure 2-14
Cross Sections for Kalispell Area

2.4.2.4.2 Kalispell Bypass

The general description of the location of the Kalispell bypass is:

- **Begins generally at US 93 South and BN Railroad. The south connection was modified through the public involvement process to reduce wetland and private property impacts. It connects to US 93, as shown in Appendix A.**

- Follows the BN Railroad right-of-way, a distance of about 1.61 kilometers (one mile), crossing Airport Road.

- Continues along BN Railroad alignment to Foy's Lake Road, approximately 3.22 kilometers (two miles).

- Crosses Foy's Lake Road curving west then north to cross US 2 west of the Appleway intersection, approximately 1.61 kilometers (one mile).

- Extends north of US 2 on new road alignment through Two Mile Drive area, crossing Two Mile and Three Mile Drives, approximately 1.61 kilometers (one mile).

- **Just south of Two Mile Drive, a realignment (from that shown in the Draft EIS) is assumed. The purpose of this realignment is to avoid impacts to the recently approved Greenbriar Subdivision. The realignment is approximately 0.80 kilometer (one-half mile) to the west from south of Two Mile to Three Mile Drive (see Appendix A).**

- Extends north and west to Stillwater Road then north to Reserve Drive, approximately 3.22 kilometers (two miles), crossing Four Mile Drive.

- Follows Reserve Drive east to US 93, approximately 1.61 kilometers (one mile).

Other elements of the design are:

- **South of US 2, the typical section is four 3.66-meter (12-foot) lanes with left-turn lanes as needed at critical intersections.**

- **Right-of-way to be acquired is sufficient to allow for future implementation of a depressed median.**

- Four intersections will require major cross-street realignment:
  - Airport Road
  - Sunnyside Drive
  - US 2
  - Reserve Drive and Stillwater Road

- Route signing indicating the new roadway as "Alternate Route US 93".

- **Virtually all future access rights would be purchased.**

Alternative B would be implemented in Kalispell in addition to improvements to **Main Street, as described in Section 2.4.2.4.1**.

Due to limited funding, Alternative B will likely be built as staged construction. The right-of-way is planned to be acquired for the full design, but only two lanes are likely to be built at first, with the rest being built at a later date.

2.4.2.5 Whitefish Area Alternatives

Six build alternatives were considered in Whitefish. These are summarized here:

2.4.2.5.1 Alternative A(FOUR-LANE)

A unique alternative in Whitefish is being considered. This alternative is located on existing US 93 (Spokane and Second). This alternative is one of six being considered in Whitefish proper. Alternative A(FOUR-LANE) consists of:

- Four 3.33-meter (11-foot) lanes on Spokane and Second Street; prohibit left turns at peak periods.
- Intersection improvements (widen radii on southwest corner to accommodate westbound to southbound dual right turns) at Spokane/Second; displace small business at southwest corner.
- Remove parking on Spokane and Second Street between Spokane and Baker.

2.4.2.5.2 Alternative C(OFF-SET)

Alternative C(OFF-SET) consists of splitting traffic between Baker and Spokane, including:

- Remove parking on Spokane Avenue and Second Street between Spokane and Baker.
- Add bike lane on Spokane.
- Add third lane for two lanes northbound; one lane southbound (Spokane).
- Add third lane for two lanes westbound; one lane eastbound (Second between Spokane and Baker).
- Improve geometry on Baker; sign as alternate US 93 route; add bike lane.
- Add third lane for two lanes southbound; one lane northbound (Baker).

2.4.2.5.3 Alternative C(COUPLET-1)

This alternative consists of developing a one-way couplet, with Spokane Avenue providing for the northbound traffic movement and Baker Avenue providing for the southbound traffic movement. During the public involvement process, this alternative was called Alternative G.

As shown on Figure 2-15, this alternative consists of:

- Existing US 93 pavement width will remain as it exists today, but will be striped to provide two 3.66-meter (12-foot) northbound lanes, plus a 3.05-meter (ten-foot) on-street bike lane and either a 3.05-meter (ten-foot) parking lane or 3.05-meter (ten-foot) shoulder. The southbound lanes will be provided along Baker with an improved cross-section two 3.66-meter (12-foot) lanes, 2.44-meter (eight-foot) shoulders, curb and gutter and 1.53-meter (five-foot) sidewalks. Baker Avenue would also need to be extended an additional 0.32 kilometers (0.2 mile), intersecting US 93 to create a four-legged intersection with an existing east approach of Columbia Street. This extension has been

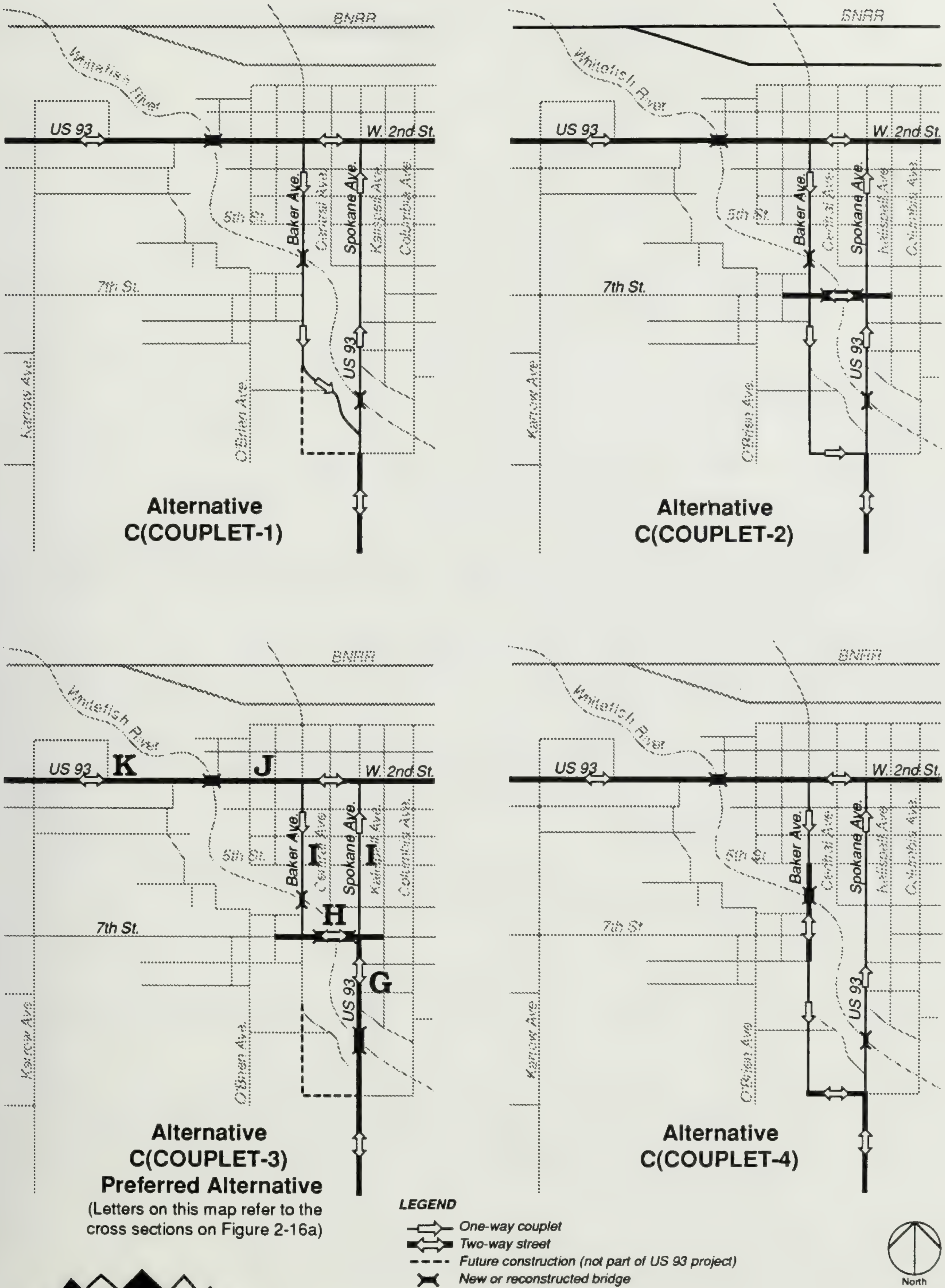

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Figure 2-15

Sub-alternatives for Location Alternative C in Whitefish

identified by the City of Whitefish as Phase 1 improvements to Baker Avenue. The Baker Avenue extension is not assumed to be constructed as a part of the US 93 project.

- Revising traffic control of selected intersecting streets.
- Upgrading the pavement sections on Baker Street.
- Improving intersections to existing US 93.

2.4.2.5.4 Alternative C(COUPLET-2)

This alternative consists of developing a one-way couplet, with Spokane Avenue providing for the northbound traffic movement and Baker Avenue providing for the southbound traffic movement.

This alternative consists of:

- Same as C(COUPLET-1) except 7th Street is extended across the Whitefish River between Baker on the west to Kalispell Avenue on the east. This provides better circulation for traffic between the one-way streets.
- Requires a new long bridge over the river and adjacent wetland.
- Requires additional commercial right-of-way between Spokane Avenue and Kalispell Avenue.
- The diagonal section of Baker along the west side of the river has not been provided in this alternative. The south end of Alternative C(COUPLET-2) begins at Columbia Avenue.

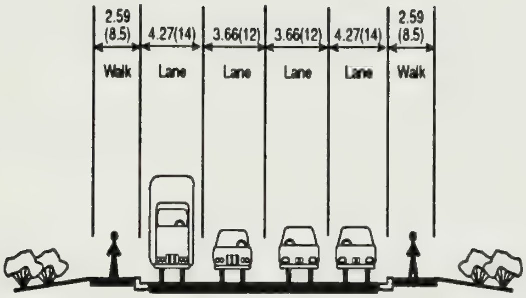
2.4.2.5.5 Alternative C(COUPLET-3)

This alternative consists of developing a one-way couplet, with Spokane Avenue providing for the northbound traffic movement and Baker Avenue providing for the southbound traffic movement.

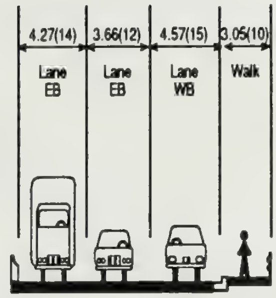
This alternative consists of:

- Alternative C(COUPLET-3) continues US 93 on Spokane north to 7th Avenue. It then splits into a one-way couplet on Spokane (northbound) and Baker (southbound) between 7th Avenue and 2nd Avenue.
- This requires the construction of a new bridge on 7th Avenue across the Whitefish River and adjacent wetland between Baker and Spokane. **A cross-section for this is shown on Figure 2-16a. The abutment for this bridge will be set so as to accommodate a new trail along the Whitefish River, below the bridge.**
- To improve circulation, the link of 7th Avenue between Spokane Avenue and Kalispell Avenue should also be constructed. This requires additional right-of-way.

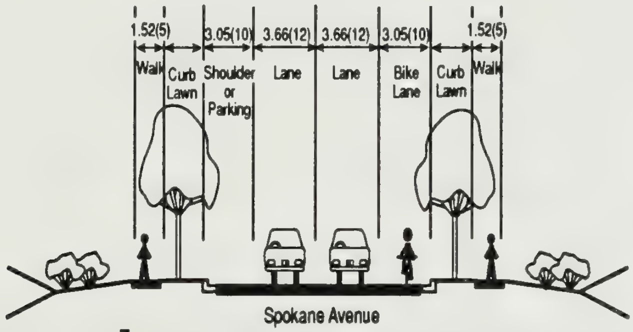
This alternative has been selected as the preferred alternative, as described in Section 2.6.



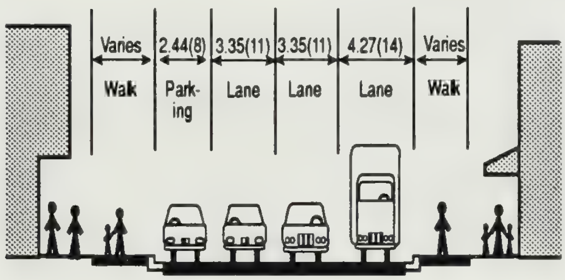
G Section on Spokane from Whitefish River (south) to Seventh Street



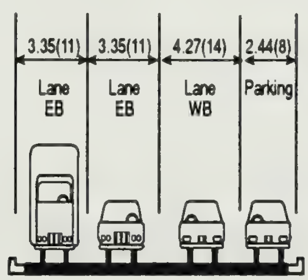
H Section on Seventh Street Bridge



I Section on Spokane Avenue or Baker Avenue (from Seventh Street to Second Street)



J1 Section from Second Street Spokane Avenue to Baker Avenue



J2 Section on Second Street from Baker to Whitefish River (west)

Notes:
1. For Section J, all measurements are in meters (feet) to edge of pavement.
2. For Sections G, H, & I, all measurements are in meters (feet) to face of curb.

Figure 2-16(a)
Cross Sections for Whitefish Area

2.4.2.5.6 Alternative C(COUPLET-4)

This alternative consists of developing a one-way couplet, with Spokane Avenue providing for the northbound traffic movement and Baker Avenue providing for the southbound traffic movement. This alternative is one of six being considered in Whitefish.

This alternative consists of:

- Alternative C(COUPLET-4) is similar to C(COUPLET-1) with the one-way couplet on Spokane and Baker beginning at Columbia Avenue on the south. However, to provide for circulation from the area of Whitefish west of Baker and south of the river into downtown, the section of Baker Street from 8th Street to 5th Street is made two-way.

- Alternative C(COUPLET-4) assumes widening of the Baker Street bridge over the Whitefish River.

2.4.2.5.7 West of Whitefish

As shown on Figure 2-16b, the following cross-sections have been assumed for Whitefish and west of Whitefish:

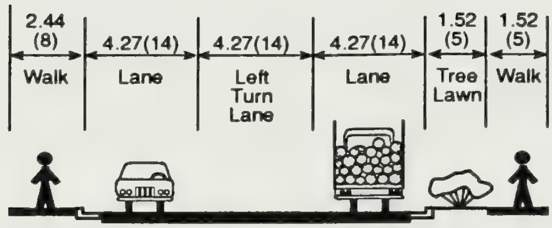
- From Spokane to the Whitefish River:
  - Spokane to Baker: two lanes westbound, one lane eastbound, on-street parking on south side of 2nd where appropriate.
  - Baker to Whitefish River (west): one lane eastbound, one lane westbound, center turn lane, on-street parking on north side of 2nd where appropriate.

- From the Whitefish River to Karrow Avenue:
  - Widening of the Second Street bridge over the Whitefish River
  - Three 4.27-meter (14-foot) lanes.
  - Curb and gutter.
  - Attached sidewalk (within existing right-of-way) on north side; detached sidewalk on south side.
  - Roadside landscaping where possible.
  - No additional right-of-way required.

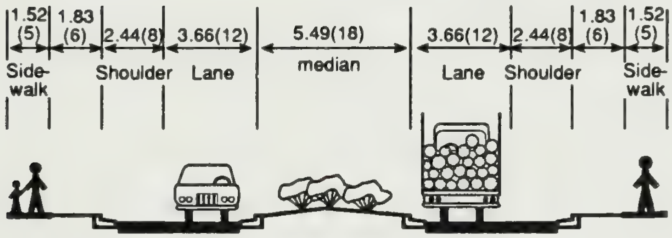
- From Karrow Avenue to West of Lion Mountain Road:
  - Two 3.66-meter (12-foot) lanes.
  - Raised landscaped median.
  - Detached sidewalk.
  - Left-turn pockets to accommodate turning traffic.

- West of Lion Mountain Road to Milepost 130.6:
  - Two 3.66-meter (12-foot) lanes.
  - Separated bikepath where possible.
  - Truck climbing lane.

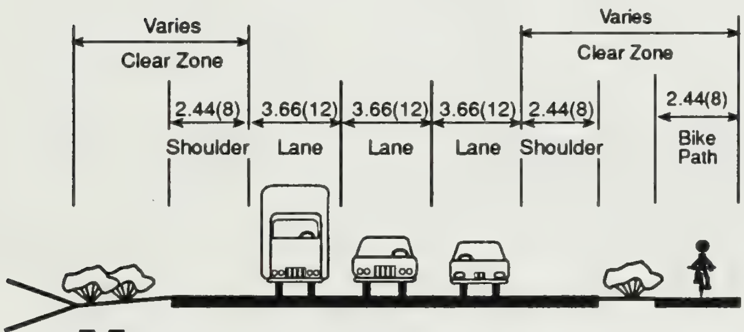
- Milepost 130.6 to Milepost 133:
  - Two 3.66-meter (12-foot) lanes.
  - Sight distance improvements and turn lanes at Twin Bridges intersection.



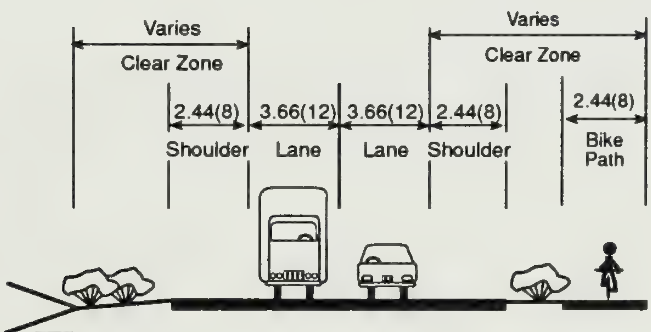
K Section on Second from Whitefish River (west) to Karrow Avenue



L Section from Karrow Avenue to west of Lion Mountain Road



M Sections from west of Lion Mountain Road to Milepost 130.6



N Section from Milepost 130.6 to Milepost 133

Notes:

1. For Sections K & L, all measurements are in meters (feet) to face of curb.
2. For Sections M & N, all measurements are in meters (feet) to edge of pavement.

Figure 2-16(b)

Cross Sections for Whitefish Area

- **Shoulder and clear zone variations near Spencer Lake. At this location, improvements will be made mostly in the hillside direction, to avoid impact to the Spencer Lake area. Cuts will need to be made in the hillside and approximately 61 meters (200 feet) of Antler Ridge Road will be realigned. A guardrail will likely be utilized to minimize clear zone clearing requirements. Special revegetation and slope stabilization techniques will be considered in this location.**

2.4.3 Access Control

Three access control alternatives have been developed for the US 93 project.

Limited access control allows access to the highway only at designated public roads or streets and at private driveways as specified in legal agreements or deeds. This level of access control is intended to give consideration to the movement of through traffic while also recognizing access needs to adjacent land use. The established public road and street system is given first priority in access to the highway. Direct private access is given secondary consideration. Limited access control includes design features which minimize conflict between traffic using at-grade accesses and the running speed of through traffic on the highway, such as auxiliary lanes and traffic controls.

Limited access control would be negotiated with and purchased from adjacent landowners at the time right-of-way purchase occurs for the proposed highway improvements. Since abutting property owners have no legal rights of access to highways constructed in new locations, such as for segments of Kalispell alternatives B(MEDIAN) or B(TURN-LANE), no compensation would be paid for imposing access control. Appropriate compensation would be paid for land and improvements acquired and for other legally compensable damages.

Existing access approaches would be eliminated or consolidated wherever practical and future approaches would be prohibited except by approval of the Montana Highway Commission after a review by the Montana Department of Transportation considering safety, effect on highway capacity, legality and physical feasibility of constructing the requested access approach. Wherever practical, private access would be provided to other existing public roads and streets rather than directly to the highway. Compatibility with access control strategies proposed for other US 93 corridor improvement projects should also be considered in developing the proposed plan for the Somers to Whitefish segment.

Alternative access control guidelines have been outlined for restrictive access control and situational access control that could apply to either the A(MEDIAN), B(MEDIAN), A(TURN-LANE), B(TURN-LANE) or A(COMBO) alternatives, or for portions thereof. These are defined in detail in Table 2-2. However, the restrictive access control guidelines would be most applicable for implementation with the A and B(MEDIAN) alternatives. The restrictive access control strategies would be more difficult to implement under the A and B(TURN-LANE) alternatives, requiring signage, driveway approach design and strict enforcement rather than a consistent center raised median to limit unrestricted driveway and minor street turning movements. A third access control alternative, no access control, is considered for comparative purposes, although a minimum level of access control (similar to the situational alternative described in Table 2-2) is inherent in all MDT design, per the guidelines of the MDT Access Management Plan, April, 1992 and in Flathead Regional Development Office and local planning boards land use planning reviews and **approvals** to provide safe and efficient site circulation.

The no access control alternative would not be applicable to the A or B(MEDIAN) alternatives since unrestricted, frequent left-turn access would result in no raised median. Flexibility in application of these guidelines needs to consider topographic constraints, existing intersection spacing, type of proposed adjacent

development, and the supplementary city street or county road network, particularly where right-turn-only access would create an unsafe level of U-turning traffic at downstream intersections.

Table 2-2
Access Control Guidelines

Restrictive Access Control	Situational Access Control
• Major arterial street intersections – no turn restrictions.	• Arterial street intersection – no turn restrictions.
• Minor collector/local street intersections – limit to right-turn-only.	• Collector/local street intersections – no turn restrictions.
• Driveways serving major traffic generators – no turn restrictions (major shopping centers, major employers, special events centers or similar generators – does not include single businesses or small shopping centers)	• Primary driveways serving major and minor traffic generators – no turn restrictions.
• Driveways near arterial intersections (less than 152.5 meters (500 feet)) - close driveway and provide connection to arterial cross street/drive where practical.	• Driveways near arterial intersections (less than 152.5 meters (500 feet)) - close driveway and provide connection to major cross street/drive where practical.
• Closely spaced driveways (less than 152.5 meters (500 feet)) - consolidate driveways to one of the existing drives or common lot line where practical.	• Closely spaced driveways (less than 152.5 meters (500 feet)) - consolidate driveways to one of the existing drives or common lot line where practical.
• Where structures are well set-back from US 93 and successive driveways exist, consider frontage road.	• Consider frontage drive as means of consolidating very closely spaced driveways (less than 61 meters (200 feet)).
• Driveways to properties that have frontage on another road, provide right-turn-only access and develop auxiliary access to the other road where practical.	• Although encouraged for construction by property owner, auxiliary access would not be developed as part of this project.
• In undeveloped areas, access may be allowed at approximately one-half-mile intervals with no turn restrictions. Access spacing should be coordinated with opposing properties to develop a four-legged intersection. Intermediate access should be limited to right-turn-only and to no less than 500-foot spacing. A maximum of one driveway with no turn restrictions should be provided per individual property.	• In undeveloped areas, intermediate full-turn access would be allowed in addition to the unrestricted .80-kilometer (0.5-mile) spaced access points. Access spacing should be coordinated with opposing properties to develop a four-legged intersection.
• Where collector/local streets and driveways are limited to right-turn-only in areas of potential large truck activity, provide U-turn opportunities at approximately 1.61-kilometer (one-mile) intervals.	

Restrictive access control (with flexibility) has been selected as the preferred alternative. In the five-lane sections where access control has already been purchased, the preferred alternative is to retain the already purchased access rights.

2.4.4 Common Design Elements

There are a number of design elements that are common to the location alternatives and design concepts. These common design elements include:

2.4.4.1 Intersection Improvements

Intersection improvements (including additional turn lanes, improved signage, signals where appropriate and lighting) which will be provided are:

- MT 82*
- Forest Hill Drive
- South bypass*
- North of Ball's Crossing
- Cemetery Road (Four Corners)*
- 18th Street (in Kalispell)
- 13th Street/Airport Road (in Kalispell)*
- Idaho Street (US 2) (in Kalispell)
- Meridian
- Reserve Drive
- Church Road
- Schrade Road
- County Landfill Road
- KM Road
- Happy Valley Road
- MT 40*
- 2nd Street (in Whitefish)
- Karrow Avenue (in Whitefish)
- Lion Mountain Loop Road
- Twin Bridges Road

Intersections where **new traffic** signals **may be warranted in future years** are denoted with an asterisk. Additional signals are identified in Section 4.1.5.2.

Detailed layouts of ten of the major intersections were prepared. These layouts are included in Appendix A.

2.4.4.2 Pedestrian and Bicycle Facilities

Pedestrian and bicycle facilities will be provided. These will include:

- Pedestrian and bicycle accommodations on the shoulder or along a separate pedestrian and bicycle lane. **A clear preference was expressed during the public review process for a separated bikepath, so this will be included as much as is feasible. Likely locations for a separate bikepath are:**

  East side: Somers to Ball's Crossing
  Either side: Ball's Crossing through Kalispell to Reserve
  East side: Reserve Drive to MT 40
  Either side: Remainder of project

- Specially-treated pedestrian crossing areas in the following locations:

  Kalispell: (Near ball fields, South 93 near hotels/restaurants, Downtown area, north of Idaho - at signals and at FVCC)

  Whitefish: (In Happy Valley area, Whitefish Mall and north to downtown, Whitefish downtown, and west of Whitefish in the Grouse Mountain Lodge area and as far west as the Lion Mountain turn-off)

  At these locations, the following design treatments **are assumed**:

  Kalispell
  - Flashing beacons for pedestrian crosswalk.
  - New signal at 18th (Kalispell).
  - At signals (Downtown Kalispell)
  - At signals (Kalispell: North of Idaho)
  - At signal initially (FVCC): Four Mile/Grandview
  - Future underpass potential (FVCC).

Whitefish

- Pedestrian actuated signal with crosswalks at Happy Valley area **or potential for future raised median (if warranted).**
- Future signal at Mountain Mall and Baker Avenue **(under construction)**.
- Future system warranted signals (Downtown Whitefish).
- Pedestrian accommodations through existing tunnel (Grouse Mountain area).

- Provisions for (future) bicycle and pedestrian underpass crossings at Ashley Creek **and the Baker Street bridge over the Whitefish River**. The bridges will be designed to accommodate a future path **under US 93 along the drainageways.**

- **Pedestrian and bicycle facilities over bridges are assumed to be accommodated on the shoulders.**

2.4.4.3 Special Design Concepts

A number of design concepts to enhance the aesthetic and environmental features along US 93 are also included. These concepts are:

- A view area or scenic overlook just south of the intersection of US 93 with MT 82, north of the rock cut area. It is at this point where dramatic views of the Flathead Valley first become available to the northbound **traveler**. This site **is planned as** a pull-out and viewing area with a very small parking lot and an interpretive sign.

- **A bridge is recommended** at the crossing of Ashley Creek. The purpose of **this is to** minimize wetland, floodplain and wildlife habitat impact, allowing for wildlife to cross under the highway at this location. This would also allow for an underpass of the bicycle/pedestrian path. These areas would also be aesthetically pleasing.

- Special entrances or gateways to Kalispell or Whitefish **are included**. In these more urban areas, landscaping can be added, as well as a large sign which indicates the "entrance" to each of these cities.

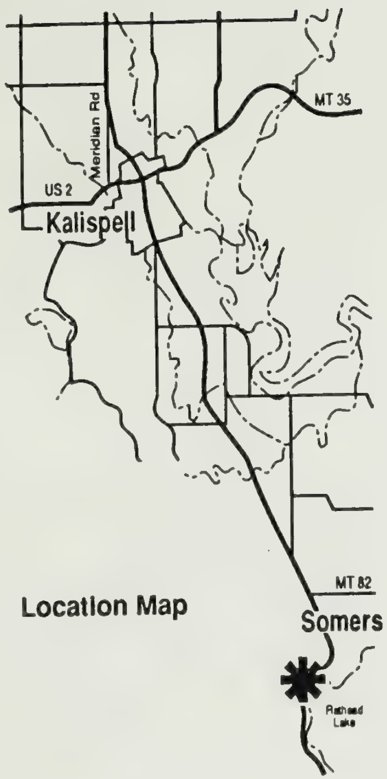
Figure 2-17 shows the location of these concepts along the corridor. The following figures illustrate the special design concepts. The other figures illustrate:

Figure 2-18: The view area south of MT 82
Figure 2-19: The Ashley Creek bridges
Figure 2-20: The south entry gateway treatment south of Kalispell
Figure 2-21: The north entry gateway treatment north of Kalispell
Figure 2-22: The gateway treatment south of Whitefish
Figure 2-23: The gateway treatment west of Whitefish

Somers to Whitefish
Environmental Impact Statement

Figure 2-17
Location of Possible Special Design Concepts

Objectives
- Tourist information stop
- Photo opportunity



Location Map

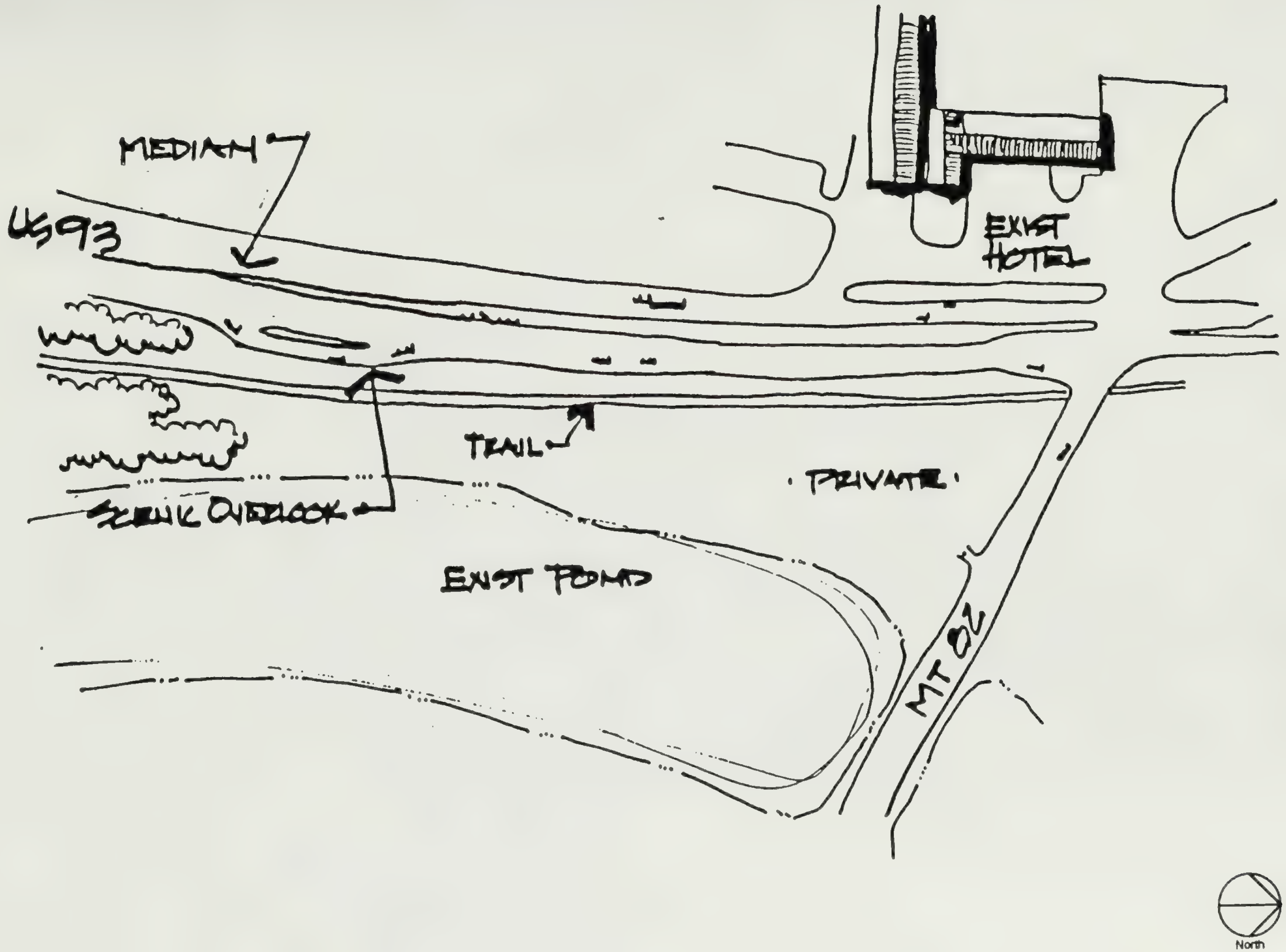
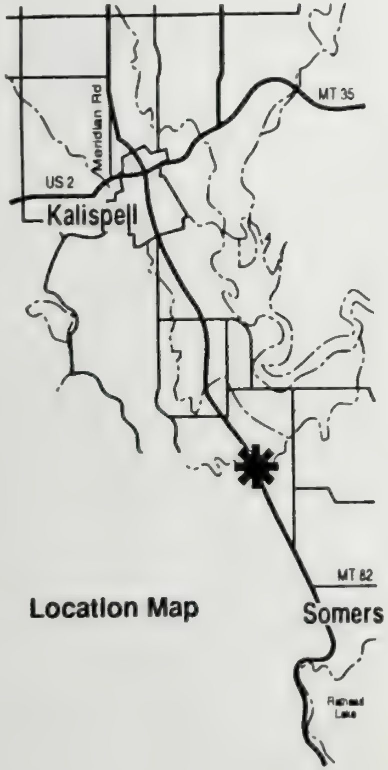
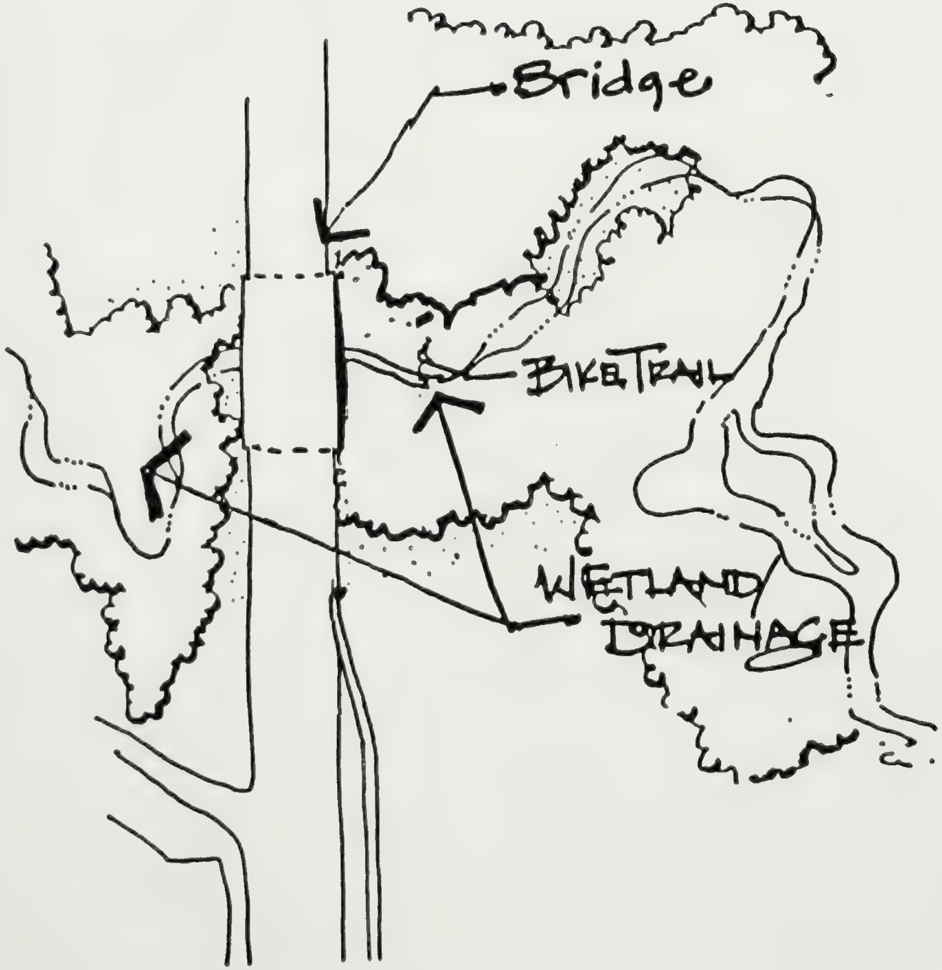


Figure 2-18
Special Design Concept: View Area

Objectives
- Minimize wetland impacts
- Enhance foreground vegetation



Location Map



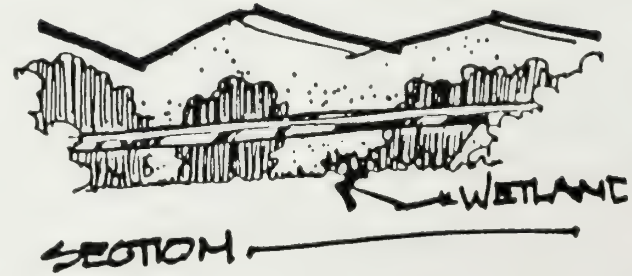
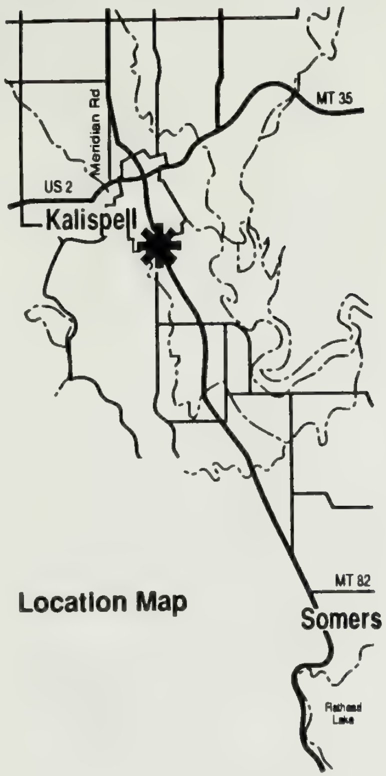
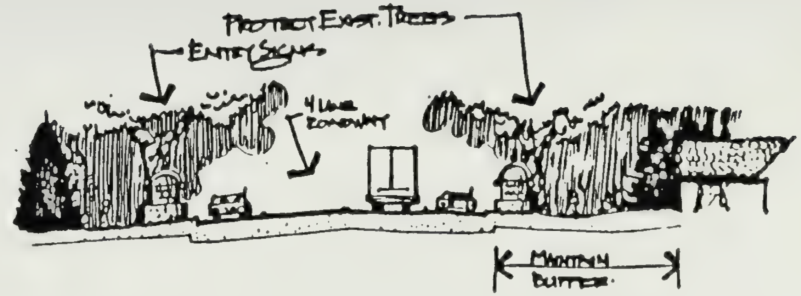


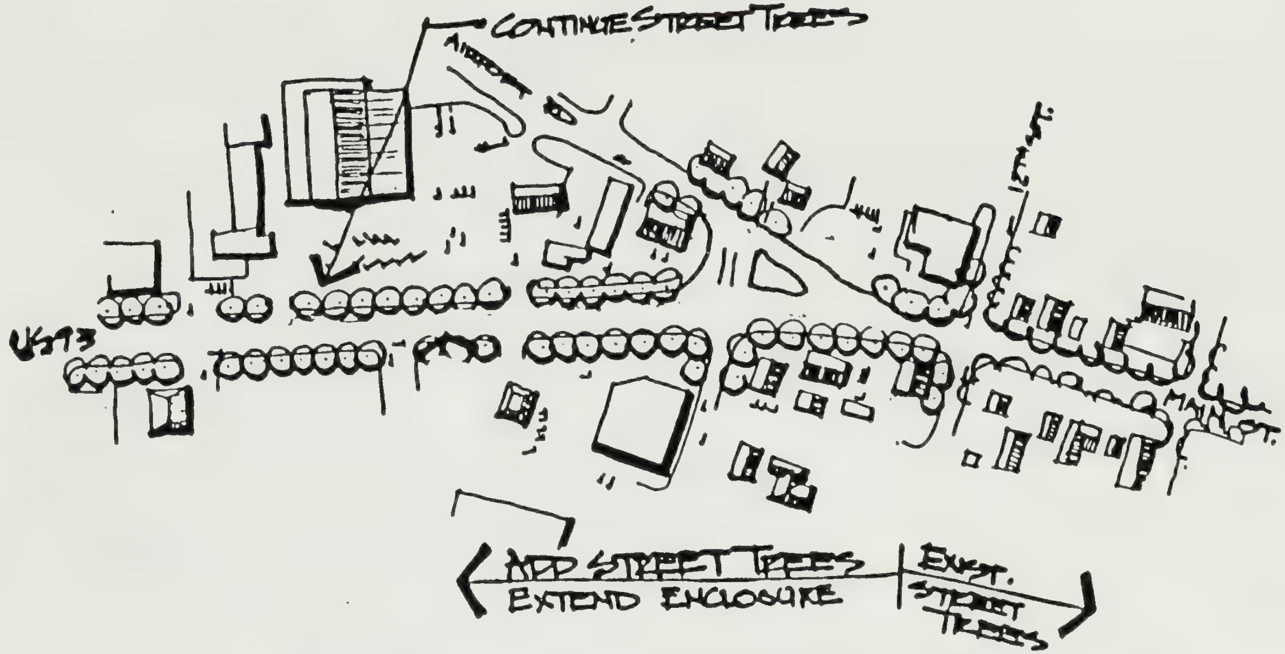
Figure 2-19
Special Design Concept: Ashley Creek Bridge

Objectives
- Identify town entrance as important
- Extend neighborhood character to the south



Location Map

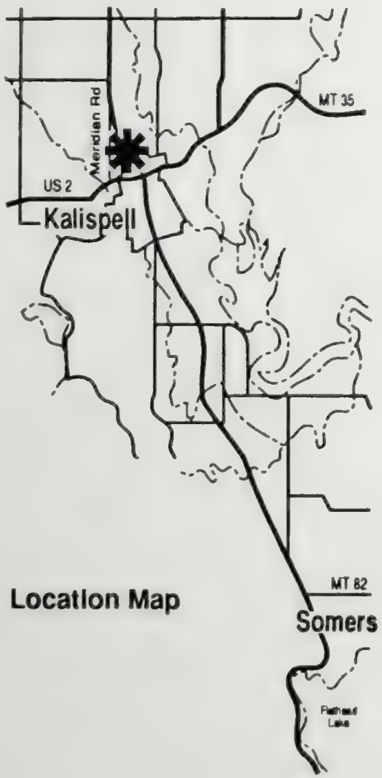




North

Figure 2-20
Special Design Concept: South Entry to Kalispell

Objectives
- Identify town entrance as important
- Extend downtown character to north
- Create parkway entrance



Location Map

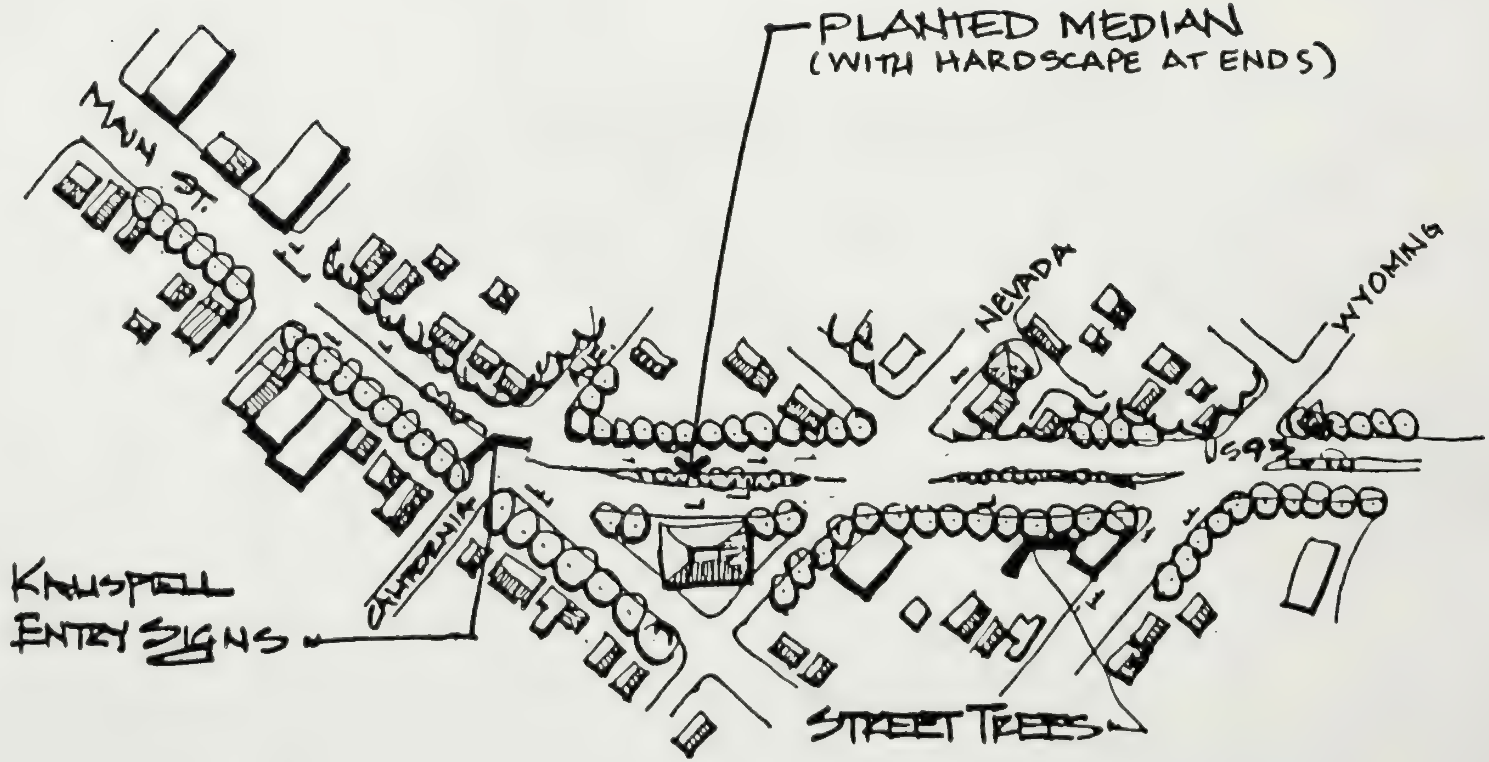
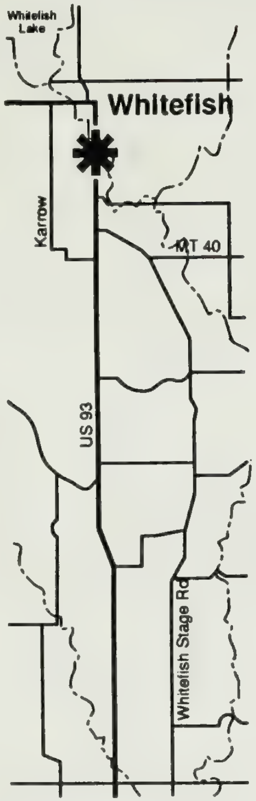


Figure 2-21
Special Design Concept: North Entry to Kalispell

Objectives

- Extend town character to south
- Create parkway entrance
- Enhance Whitefish River character



Location Map

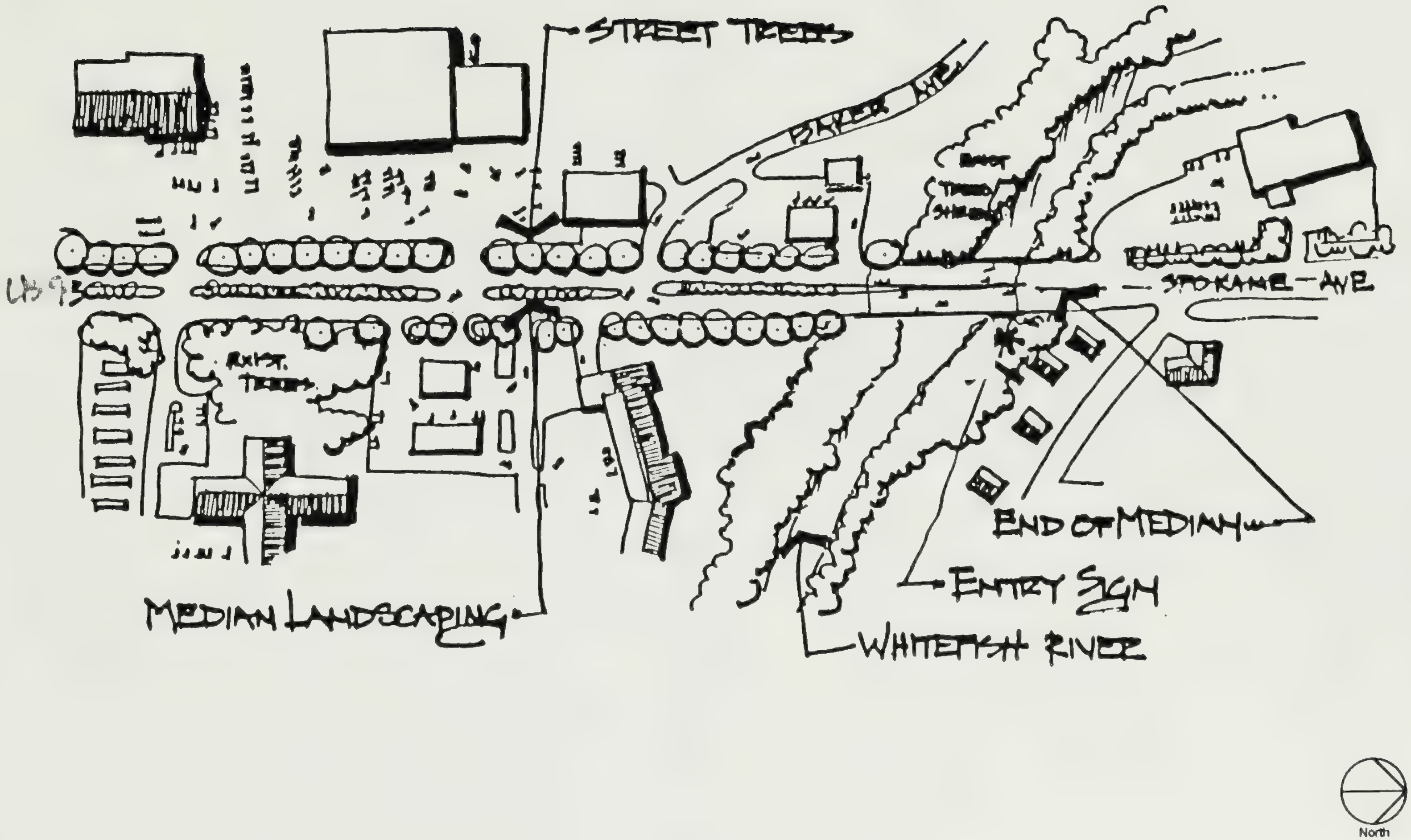
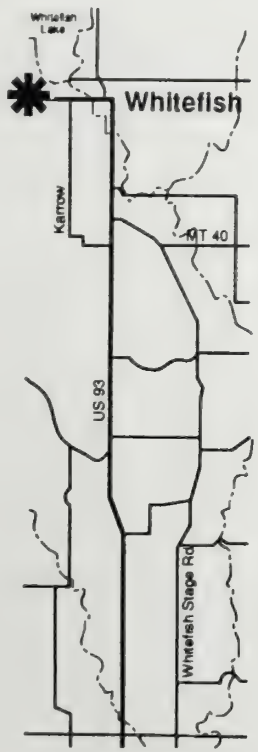


Figure 2-22

Special Design Concept: South Entry to Whitefish

Objectives

- Identify town entrance as important
- Extend town character to west
- Create parkway entrance



Location Map

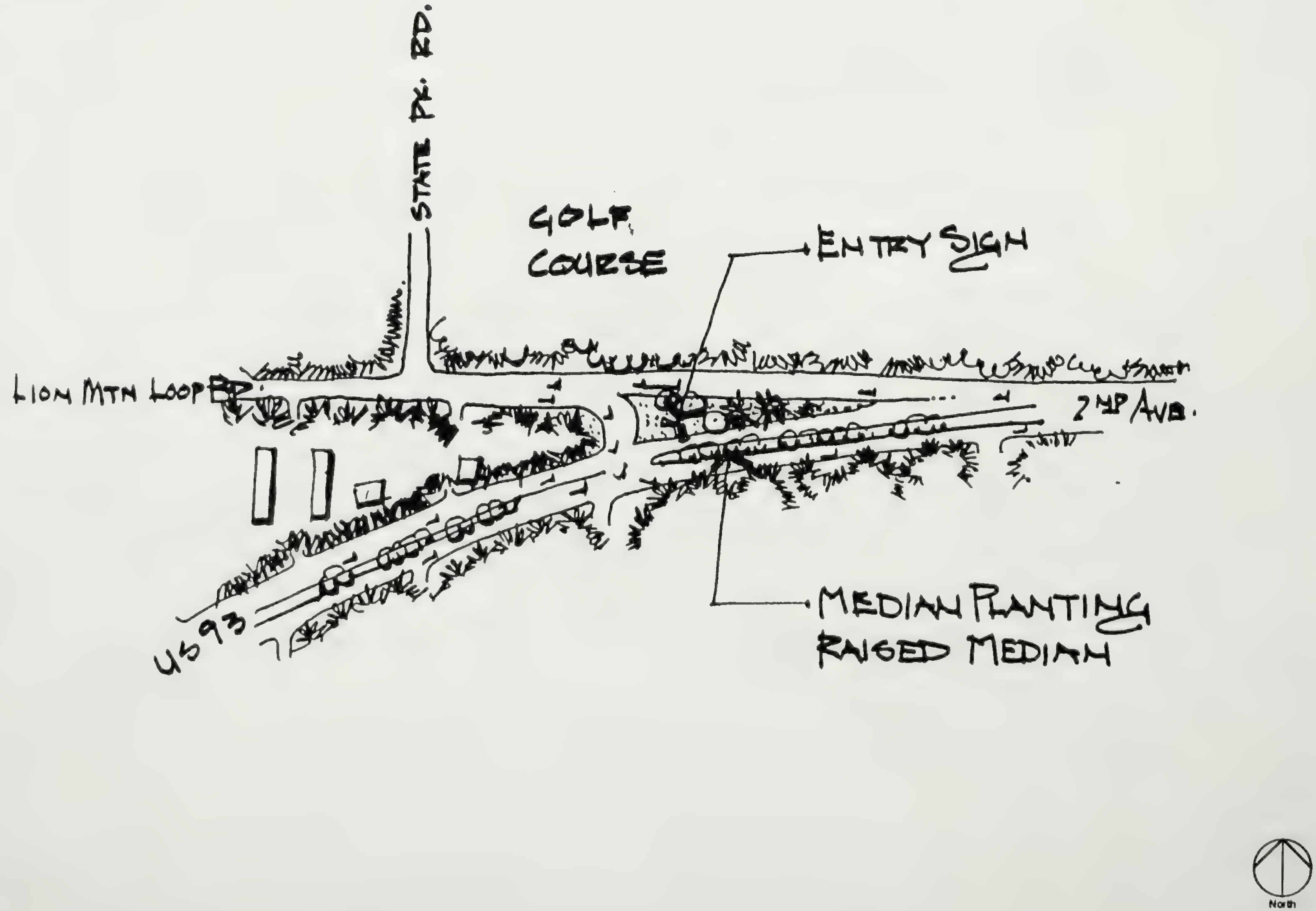


Figure 2-23

Special Design Concept: West Entry to Whitefish

2.4.4.4 Intelligent Vehicle Highway Systems

Intelligent vehicle-highway systems (IVHS) are new technologies currently seen to offer **considerable** opportunities in traffic operations and transportation management. IVHS refers to the integration of electronics, communications, computers, and control systems to create "smart vehicles" and "smart highways."

The approach is intended as a tool to help solve existing and emerging problems including congestion, accidents, adverse environmental impacts and traveler **disorientation**.

These new technologies are used to improve the information available to travelers and traffic managers so that better-informed **travel** decisions can be made. "Smart vehicles" include new features to provide accurate and timely information, warnings and advice. In the longer term, IVHS will assist the driver to improve vehicle control, and may even take over some of the driving tasks. "Smart highways" will monitor traffic movements and make automatic adjustments to improve traffic flow.

IVHS consists of:

- Advanced Traffic Management Systems (ATMS). These technologies identify and measure traffic conditions on the highway and take actions to improve traffic flow. They include traffic flow and congestion monitoring; weather monitoring; incident detection and management; advanced traffic signal control; and variable message signs.

- Advanced Traveler Information Systems (ATIS). These technologies provide various means of delivering information to the traveler, including traffic situation information; transit schedules and timekeeping; traffic hazards and incident warnings; construction delays; tourist information; and weather advisories.

- Advanced Public Transportation Systems (APTS). These systems provide for better scheduling and control of public transit operations; improved marketing and customer interface functions, and operational support for transit priority, HOV measures and rideshare promotion.

- Commercial Vehicle Operations (CVO). CVO applies IVHS technologies to the fleet management and control functions of commercial freight and interurban bus transportation, including driver hours monitoring, automatic permitting and dispatch functions, compliance with safety checks and weight limits, etc.

- Advanced Vehicle Control Systems (AVCS). AVCS offers the greatest potential for improving highway safety and efficiency in the long term. Current devices include automatic enforcement systems such as speed enforcement cameras. Future systems will include intelligent cruise controls, responsive to speed limits, road conditions and adjacent vehicle speeds; collision avoidance systems; vision enhancement technologies; default steering systems; and eventually, fully automated vehicle control.

Current generations of IVHS technologies such as congestion and weather monitoring systems and traveler information systems have potential for immediate application along US 93. Longer-term development of automatic vehicle enforcement systems, intelligent driver support and moves toward full highway automation may also offer major benefits within the service life of the US 93 improvement.

The development of IVHS technologies specifically geared toward rural areas is an emerging technology. Possible applications germane to the US 93 area include:

- Collection and transmission of information prior to trip-making, such as weather and traffic conditions or destination attractions.

- Collection and transmission of information to the traveler en-route, such as road and weather conditions ahead, potential alternate routes or recommended safe speed.

- Transmission of emergency information, such as an emergency ahead, "may day" signal for help or hazardous road ahead.

Although IVHS systems are not recommended for immediate implementation on this project, none of the alternatives will preclude possible implementation of IVHS systems in the future.

2.4.4.5 Other TSM Measures

All alternatives include the following other TSM measures:

- Consider new traffic signals where warranted (see Section 4.1.5.2 for list of potential signal locations).

- Better traffic signal progression through Whitefish and Kalispell by means of a traffic signal interconnect system, requiring replacement of inadequate traffic signal hardware.

- Improved signage for major cross-streets along entire corridor. Consideration will also be given to use of international (bilingual) signage where appropriate.

- Lighting at appropriate intersections (potential signal locations noted above).

- Removal of on-street parking along US 93 in Whitefish and in some locations in Kalispell.

- Appropriate speed limit signs to be placed in urban areas with residential uses.

2.4.4.6 Transit Provisions

All alternatives also include the following provisions for transit use along US 93:

- Acquisition of right-of-way and paving for three park-n-ride lots [one in south Whitefish **(in the vicinity of MT 40)**, one in north Kalispell **(in the vicinity of the Flathead Valley Community College)** and one south **of** Kalispell **(in the vicinity of MT 82)**]. **Approximately 0.41-hectare (one-acre) lots are assumed.** This alternative is recommended because carpooling and vanpooling had higher levels of support when compared to other alternate modes in the voter survey that was done in June of 1993.

- Preservation where feasible for a corridor to be used for some future transit use. This would be 6.1 to 9.15 meters (20 to 30 feet) in width and could be located within the clear zone area. Its future use would be determined by a separately funded study specifically analyzing different fixed guideway options.

2.4.4.7 TDM Measures

The only TDM-type measure which is considered reasonable for advancement is the accommodation of future planned pedestrian and bicycle connections to other facilities. This will be done in the Ashley Creek area, to connect with the planned trail along the railroad and in the Whitefish River area, to connect to the planned pedestrian and bikepath system in Whitefish.

2.4.4.8 Landscaping

Landscaping assumed is:

a. Low maintenance grasses and occasional shrubs are planned in rural areas in the median and along the roadsides. This would require occasional mowing but minimal other maintenance. This is assumed to be maintained by MDT.

b. In raised median areas closer to the urban areas, higher intensity landscaping is planned with grasses and groundcovers, shrubs and trees. These areas would be irrigated. In these locations, maintenance agreements would be worked out between MDT and **the local jurisdictions. The City of Whitefish and the City of Kalispell have indicated willingness to sign a maintenance agreement for these areas (see Volume II). Two locations are planned for this type of treatment: (1) between MT 40 and the Whitefish River south of Whitefish, and (2) between Karrow Avenue and just west of the Lion Mountain Road intersection west of Whitefish. Landscaping will be placed to not obstruct intersection sight distances**.

c. Landscaping in the vicinity of the special design concept areas will be a combination of low intensity (in the rural areas) and higher intensity (in urban areas).

d. Roadside landscaping with shrubs and trees is planned in areas without medians adjacent to the cities (south of Kalispell, north of Kalispell and west of Whitefish between the Second Street bridge over the Whitefish River and Karrow Avenue).

2.4.4.9 Drainage

Storm drain facilities will be constructed in the Kalispell area. Elements will include:

- **New storm drainage systems will be needed along US 93 between Airport Road and 9th Street. These systems are required to provide drainage for the urban section which has curb and gutter on both sides.**

- **New storm drainage systems will be needed along US 93 between Ball's Crossing and Airport Road, south of Kalispell. Stormwater runoff is currently carried by roadside ditches. New systems will be required to provide drainage for the new urban section which has curb and gutter on both sides.**

- New storm drainage systems will be needed along US 93 between Grandview Drive and Reserve Drive. Stormwater runoff is currently carried by roadside ditches. New systems will be required to provide drainage for the new urban section which has curb and gutter on both sides.

Elements of the stormwater drainage plan in Whitefish include:

- New storm drainage systems are needed along the section of US 93 from north of MT 40 to Baker Street. These systems are required to provide drainage for the urban section which has curb and gutters on both sides.

- This project will extend the first segment of a storm drain line from north of MT 40 to south of the Whitefish city limit. It will outfall into the Whitefish River to the east in the vicinity of the Wright's Valley Furniture store (Sta. 698+42).

- A detention pond is planned just west of the outfall at the river (south of the furniture store).

- On US 93 (Spokane Avenue) south of Whitefish from Commerce Street, at the south side of the Mall, to Baker Avenue this project will provide a new storm drain line. It will outfall to the west into an existing MDT gravel pit which is located behind the bowling alley. The new storm drain to the outfall will be located in an easement between the bowling alley and Jimmy Lee's Restaurant. The existing US 93 stormwater runoff outlets into the Whitefish River just north of Baker Avenue.

- The new system will improve water quality because the ditches along US 93 will no longer outfall directly into the Whitefish River.

- The existing storm drain system will be used on the sections of US 93 from Spokane and the Whitefish River to 2nd Street and the Whitefish River. On US 93 from Karrow to the Whitefish River a new storm drain will be provided.

Stormwater drainage plans will be developed in more detail during the US 93 design process.

2.4.4.10 Other Elements

All alternatives will also include as appropriate and feasible, provisions for wildlife fencing and special crossings (such as underpasses) for livestock and farm equipment. The need for these crossings will be negotiated during the right-of-way process.

2.5 Costs

Preliminary layouts for the preferred alternative, based on the typical sections shown in Section 2.4.2 and on 1" = 200' scale aerial photography supplemented by cross-sections, were prepared and used to develop preliminary opinions of probable construction cost.

The following table summarizes all initial construction, right-of-way and utility relocation costs for the preferred alternative.

Cost assumptions that have been made are:

- Concrete pavement (with curb, gutter and sidewalk) is assumed **from Cemetery Road to Ninth Street and North of Grandview to the Stillwater River in** Kalispell and **the south crossing of the Whitefish River to Lion Mountain Loop Road, west of Whitefish**.
- Costs are 1994 dollars.
- Bike accommodations are **detached where possible.**
- **All raised medians will be lighted.**
- **Truck turn-arounds and frontage roads are as illustrated in Appendix A.**
- **70 mph desirable design speed in rural areas.**
- **50 mph desirable design speed in urban areas.**

Table 2-3
Estimated Construction Costs for Preferred Alternative

Location	Construction	Right-of-Way	Utilities	Contingency	Total
South of MT 82 to Rocky Cliff Road	$$5,083,150	$128,656	$115,500	$1,065,461	$6,392,767
Rocky Cliff Road to Cemetery Road	$2,372,660	$1,505,131	$100,00	$795,558	$4,773,349
Cemetery Road to Airport Road	$3,817,930	$595,706	$90,000	$900,727	$5,404,363
Kalispell Bypass	$10,165,966	$3,200,143	$204,800	$2,714,182	$16,285,091
Airport Road to Ninth Street	$777,769	$661	$000	$155,686	$934,116
Idaho to Grandview	$513,825	$000	$000	$102,765	$616,590
Grandview to Milepost 117	$3,581,629	$000	$58,500	$728,026	$4,368,155
Milepost 117 to 121	$5,413,444	$306,591	$105,600	$1,165,127	$6,990,762
Milepost 121 to 122.6	$3,326,087	$615,399	$79,200	$804,137	$4,824,823
Milepost 122.6 to MT 40	$3,302,220	$17,000	$37,000	$671,244	$4,027,464
MT 40 to Whitefish River	$3,555,710	$000	$87,000	$728,542	$4,371,252
Whitefish River Crossing	$200,000				$200,000
Whitefish River to Seventh Street	$728,620	$000	$26,000	$150,924	$905,544
Seventh Street Bridge	$1,725,750	$49,587	$000	$355,067	$2,130,404
Baker & Spokane, 7th to 2nd	$1,799,760	$000	$84,000	$376,752	$2,260,512
Second Street, Spokane to Baker	$427,290	$000	$36,000	$92,658	$555,948
Baker to Karrow	$746,640	$000	$44,000	$158,128	$948,768
Karrow to West of Lion Mt. Road	$971,150	$000	$80,000	$210,230	$1,261,380
West of Lion Mtn. Road to Milepost 130.6	$981,838	$29,091	$42,000	$210,586	$1,263,515
Milepost 130.6 to 133	$818,740	$91,636	$60,000	$194,075	$1,164,451
TOTAL	$50,310,178	$6,539,601	$1,249,600	$11,579,876	$69,679,255

Cost for various elements of the project are broken out here:

- **Basic highway construction: $54,040,446**
- **Right-of-way: purchase - $3,789,601; relocations - $2,750,000**
- **Frontage roads: $220,400**
- **Special design features: $6,027,400**
- **Pedestrian and bicycle facilities: $1,601,807**

2.6 Construction Phasing

Attached are three figures **(Figure 2-24, 2-25 and 2-26)** which generally describe likely construction phasing. One of the main goals of the construction phasing plan will be to minimize delays to traffic during the construction period.

The same basic construction plan will be followed for the three design alternatives located in the US 93 corridor. This plan consists of the following two phases:

1. A portion of the new road will be built while traffic continues on existing US 93.

2. Traffic will be moved over to the new road section while the old road is brought up to standards.

There are several situations in the corridor where this basic construction plan will need to be modified. These are:

- Within the more urbanized areas of Kalispell and Whitefish, where the entire existing US 93 will need to be torn up and replaced.

- In transition areas, where there will be more disruption to existing US 93.

- At bridges, where detours will be necessary.

Construction phasing will be planned such that access will be maintained at all times to residences and businesses. It is likely that some diversion of traffic to other routes may occur.

It is possible to provide incentives or disincentives to encourage contractors to meet a particular construction schedule. A time period can be specified, with penalties included for every day which exceeds the specified time period.

2.7 Selection of a Preferred Alternative

2.7.1 Process

The process used for selection of a preferred alternative consisted of the following major steps:

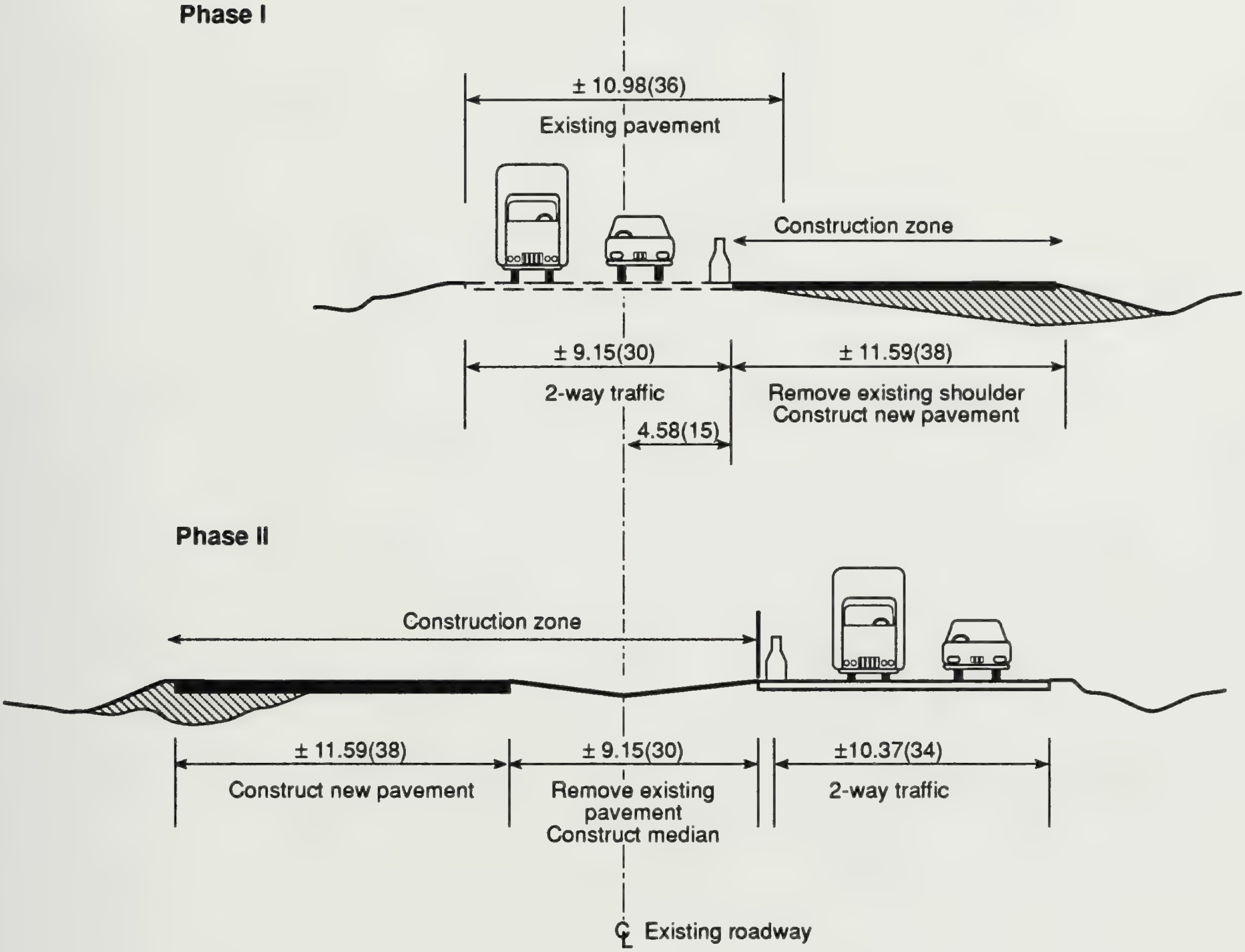
1. Public hearings (three) and meetings with over 200 groups and individual property owners.

2. Receipt of input from telephone calls and letters (see Chapter Six and Volume II for more detail).

3. Five meetings with the Project Advisory Committee (in addition to the meetings held prior to issuance of the Draft EIS).

4. Development of more detailed conceptual design plans to show intersection layouts on access plans.

5. Refinement of right-of-way and cost estimates.

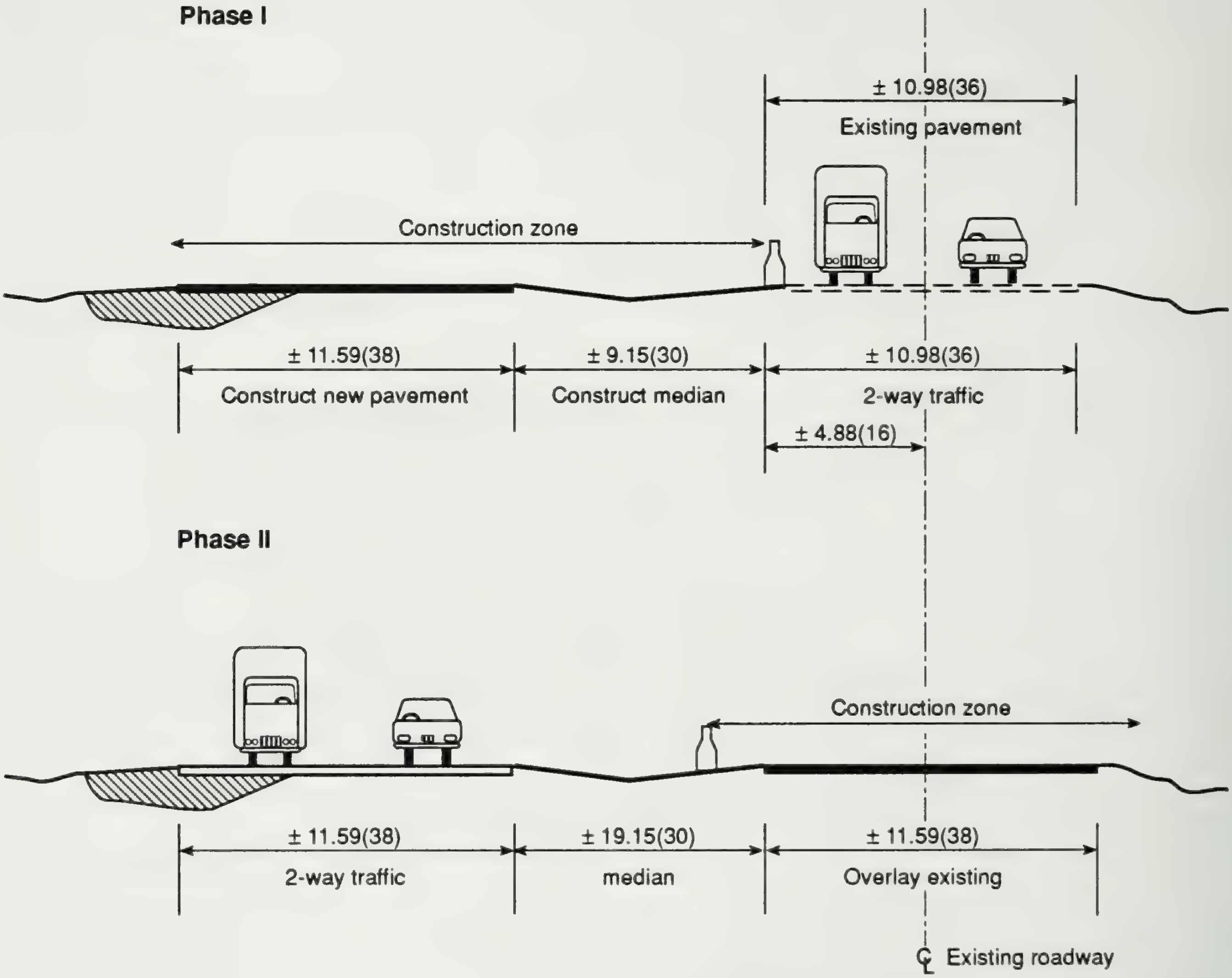


Note: 1. Dimensions are in meters (feet).
2. An example of where this would occur is between MT 40 and the Whitefish River.

Somers to Whitefish Environmental Impact Statement

Figure 2-24

Construction Phasing - Alternative A (MEDIAN) (centered location)

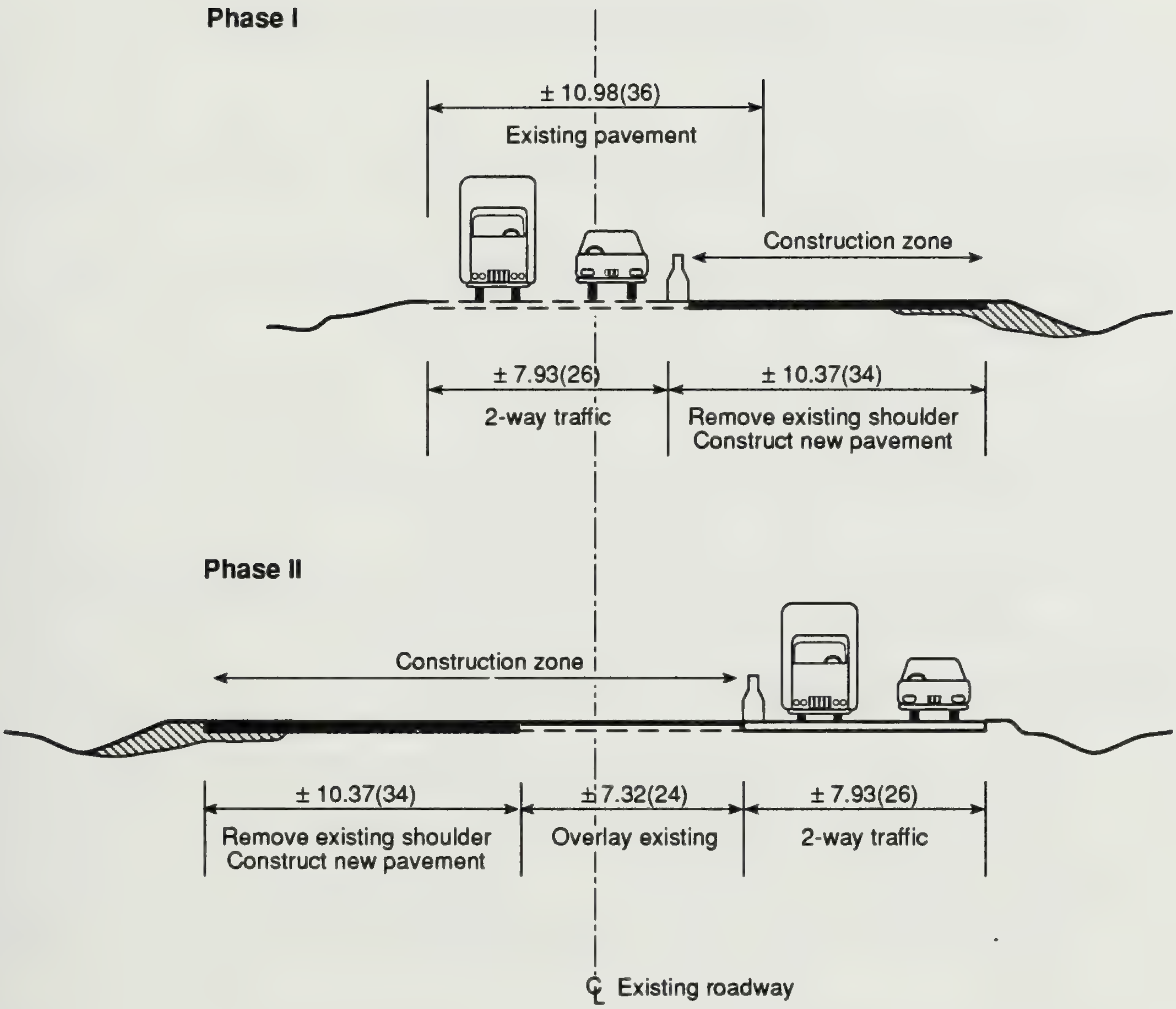


Note: 1. Dimensions are in meters (feet).
2. An example of where this would occur is between Somers and Rocky Cliff Road.

Somers to Whitefish
Environmental Impact Statement

Figure 2-25

Construction Phasing - Alternative A (MEDIAN)(offset location)



Note: 1. Dimensions are in meters (feet).
2. An example of where this would occur is between Grandview and Milepost 117.

Figure 2-26
Construction Phasing - Alternative A (TURN-LANE)

6. Presentation to and adoption by the Highway Commission.

2.7.2 Elements of Preferred Alternative with Reasons for its Selection

2.7.2.1 Alternative A(COMBO)

The highway alternative selected for the major portions of the corridor is a combination of the two basic cross-sections evaluated. It consists of:

- A(TURN-LANE) for 14.32 kilometers (8.9 miles):
  a. Rocky Cliff Road to Airport Road: 5.63 kilometers (3.5 miles)
  b. Grandview to Milepost 117: 3.38 kilometers (2.1 miles)
  c. Milepost 122.7 to MT 40: 4.83 kilometers (3 miles)
  d. Whitefish River (West) to Karrow Avenue: 0.48 kilometer (0.3 mile)

- A(MEDIAN) for 18.99 kilometers (11.8 miles):
  a. MT 82 to Rocky Cliff Road: 6.44 kilometers (four miles)
  b. Milepost 117 to 122.7: 9.33 kilometers (5.8 miles)
  c. MT 40 to Whitefish River: 2.09 kilometers (1.3 miles) (assuming traffic volumes warrant the raised median)
  d. Karrow Avenue to West of Lion Mountain Road: 1.13 kilometers (0.7 mile)

Reasons for selection of this alternative in particular segments are:

- From MT 82 to Rocky Cliff Road: the A(MEDIAN) alternative can basically fit within existing right-of-way with minimal out-of-direction travel impacts to adjacent properties. The A(MEDIAN) alternative is safer than the A(TURN-LANE) alternative in this segment.

- From Rocky Cliff Road to Airport Road: the A(TURN-LANE) alternative is needed to accommodate the industrial nature of the corridor, the high percentage of businesses serviced by large trucks, the industrial zoning, and the high density of existing accesses.

- From Airport Road to Ninth Street: a four-lane section is recommended to avoid impact to the trees in the historic district.

- From Grandview to Milepost 117: the A(TURN-LANE) alternative is recommended to serve the high density of existing accesses, the industrial nature of portions of the corridor and the high percentage of businesses serviced by large trucks.

- From Milepost 117 to 122.7: the A(MEDIAN) alternative can serve existing access points with minimal out-of-direction travel impacts. It is a safer alternative for portions of this corridor. Most of the properties are residential.

- From Milepost 122.7 to MT 40: the A(TURN-LANE) alternative is recommended to serve the higher density of existing accesses, minimize relocations of properties and minimize out-of-direction travel.

- From MT 40 to the Whitefish River: the A(MEDIAN) alternative is recommended because of the high traffic volumes in this area and the alternate access provided by the Baker Street extension project. This alternative represents the "gateway" to Whitefish. The City of Whitefish has committed to maintaining the median area. Most of the right-of-way is in place. This alternative is recommended to be installed when traffic volumes warrant its installation (assumed to be 30,000 summer ADT, which is the design volume used for this project).

- From the Whitefish River (west) to Karrow Avenue: a three-lane section is recommended to serve the high volume of turning traffic.

- From Karrow Avenue to west of Lion Mountain Road: the A(MEDIAN) alternative is recommended to serve as a west gateway to Whitefish. It can serve existing accesses in this area.

2.7.2.2 Kalispell Bypass B

The west bypass of the central area of Kalispell was selected as the preferred alternative for the following reasons:

- It will provide critical relief for congested areas in Kalispell. The bypass will reduce future Year 2015 traffic in Kalispell by 9,000 vehicles per day.

- It will provide a much needed alternate route for trucks and other vehicles not needing to stop in Kalispell.

- It will enhance the economic stability of downtown Kalispell.

- It will enhance residential property values in the central area of Kalispell.

- It will reduce CO and PM10 emissions.

- It is consistent with City and County plans.

- It is supported by the Kalispell City Council and the Flathead County Commissioners.

The bypass was selected as the preferred alternative even though there will be negative direct impacts and the potential to accelerate loss of wetlands, wildlife habitat and farmland as well as potentially contributing to degradation of water quality which will occur as a result of implementation of the bypass.

The specific design that was selected consists of:

- Right-of-way sufficient for four-lane with median.

- Access rights purchased, consistent with the restrictive access control alternative.

- Likely phased construction (two lanes initially, four lanes when needed).

- Ultimate section south of US 2 will be four lanes with no median and widening for turn-lanes at major intersections.

2.7.2.3 Whitefish Couplet-3

The Whitefish alternative Couplet-3 was selected as the preferred alternative in Whitefish for the following reasons:

- It will provide enhanced traffic operations and level of service when compared to alternatives which are located all on existing US 93 (Spokane and Second).
- It will result in less out-of-direction travel when compared to the other couplet alternatives.
- It will protect residential character along Baker south of Seventh. Although concern has been expressed about increased traffic on Baker because of the conversion to a one-way couplet, traffic projections show an additional 1,000 to 2,000 vehicles per day when compared to the No-Build alternative. This is not considered a substantial increase in volumes.
- It will enhance circulation to Whitefish schools.
- It will relieve traffic on Second Street.
- It will be supportive of the City's goals to develop in the southwest area of Whitefish.
- It is supported by the Whitefish City Council.
- It reduces PM10 emissions when compared to the couplet alternative without the Seventh Street bridge, because there is less out-of-direction travel (less VMT).

To respond to concerns about its higher construction costs, the width of the Seventh Street bridge has been reduced, which saves approximately $952,000 in construction costs.

2.7.2.4 Separated Bikepath

The separated bikepath (as much as feasible) was selected as the preferred alternative, primarily in response to public and agency support. It is assumed as indicated here:

- Somers to Rocky Cliff Road (separated).
- Rocky Cliff Road to Airport Road (separated).
- Along Kalispell bypass (separated).

- Grandview to Spokane crossing of Whitefish River (separated).

- Karrow Avenue to Milepost 133 (separated as much as possible).

In locations where a separated bikepath is not possible, it will either be attached or on the shoulder of US 93.

2.7.2.5 Restrictive Access Control With Flexibility

The restrictive access control policy (with flexibility) was selected as the preferred alternative for the following reasons:

- It provides the most opportunity to protect future traffic operations of US 93 over time (less degradation of service will occur).

- It provides the safest traffic operations over time.

- It includes a provision for flexibility to assist in responding to the needs of specific property owners.

- Along the Kalispell bypass, it is assumed that virtually all access rights would be purchased to protect the future traffic operations.

In the five-lane sections where access control has already been purchased, the preferred alternative is to retain the already purchased access rights.

2.7.2.6 Special Design Concepts

Six of the special design concepts evaluated in the Draft EIS have been selected as a part of he preferred alternative. The special design concepts which were not included are listed here, with reasons provided for their elimination:

- The Four Corners visitor center has been removed, since it is a duplication of the site already at Lions Park.

- The split alignments have been omitted because of right-of-way, prime farmland and cost impacts.

- The bridge over the Whitefish River has not been included because of cost considerations.

Chapter 3.0
Affected Environment

Chapter Three

Affected Environment

Chapter 3.0 Affected Environment

Changes in text between this document and the Draft EIS are in bold and underlined.

This chapter provides a description of the existing conditions in the study area. It is to be used as the basis for which environmental impacts are evaluated.

3.1 Land Use

Information regarding existing land uses, land use plans, development controls, and anticipated land use changes was compiled for purposes of identifying and assessing the land use impacts of US 93 alternatives. The land use analysis focuses on the central Flathead Valley, from Somers to Whitefish.

3.1.1 Land Ownership

The majority (82%) of land in Flathead County is held in public or corporate timber company ownership. Federal government holdings account for 70 percent of the county land area, and include sizable portions of Glacier National Park and the Flathead National Forest (including three wilderness areas). The US Bureau of Land Management, the US Bureau of Reclamation, and the US Fish and Wildlife Service also hold land within the county. State of Montana lands account for 4% of county land area, and include the Stillwater State Forest and scattered state school sections. Private forest products companies hold about 17 percent of county land. These lands were originally granted to railroads by the federal government. A small portion of the Flathead Indian Reservation also is located in southern Flathead County.

The prevalence of public, corporate forest, and reservation property serves to limit land available for development in Flathead County. Most privately owned land is located in the Flathead Valley. It is this area which supports most of the county's population, commerce, and agriculture.

MDT already owns portions of the right-of-way of the US 93 corridor. A generalized description of MDT ownership by segment is:

- Somers to Ball's Crossing. MDT owns a strip that was acquired from the railroad which is approximately 21.35 meters (70 feet) wide and 6.76 kilometers (4.2 miles) long.
- Ball's Crossing to Kalispell - 36.6 meters (120 feet) average width.
- Kalispell to KM Road -- 67.1 meters (220 feet) average width.
- KM Road to JP Road - 61 meters (200 feet) average width.
- JP Road to Baker Street - 48.8 meters (160 feet) average width.

3.1.2 Existing Land Uses

An inventory of existing land uses has been prepared for highway modeling purposes. The inventory tabulates the location, the mix, density, and type of land uses which exist in Flathead County. Detailed land use information was developed for 107 distinct Traffic Analysis Zones (TAZs) within the central Flathead Valley

(from Somers to Whitefish). Summary land use information also was developed for 26 external areas (areas peripheral to the central valley which contribute traffic to central valley roads).

Information was developed for the following land use types:

Residential	Services
High Volume Retail Trade	Medical
Medium Volume Retail Trade	Industrial
Low Volume Retail Trade	Primary and Secondary Schools
Federal and State Government	College
Local Government	Lodging
General Office	Agriculture

3.1.3 General Land Use Trends

The Flathead Valley is experiencing substantial population and economic growth. Residential and commercial development patterns are resulting in important changes in area land uses.

3.1.3.1 Residential

In recent decades, new residential development has been characterized by a dispersed development pattern, with most new dwellings being located outside of cities and major unincorporated communities. **Recent** land use trends have caused the Flathead Valley's population to become much less centralized. The cities of Kalispell, Whitefish, and Columbia Falls and the unincorporated community of Evergreen continue to be population centers, but account for decreasing shares of the area's total population.

Rural residential development has displaced substantial amounts of productive agricultural land and wildlife habitat, and in some areas has contributed to degradation of water quality. The prevalence of rural residential development also contributes to increased use of rural sections of area highways by persons commuting from exurban home sites to jobs and other trip destinations within the area's larger communities.

3.1.3.2 Commercial

Most of the economic growth occurring in the Flathead Valley is occurring in retail and service type businesses. The primary location for the new commercial development has been along highway corridors inside existing communities. US Highways 93 and 2, have been the location of two new shopping malls in Kalispell and one in Whitefish. Kalispell has also experienced significant commercial strip-type development east and west of its Central Business District (CBD) on US 2, and south of the CBD on US 93. Commercial strip development also is occurring south of the Whitefish CBD on US 93. Destination golf resorts, and related hotel-condominium facilities have been developed near US 93 west of Whitefish. The Big Mountain Ski Resort is located to the north of Whitefish.

Some highway-oriented commercial development is occurring in rural areas between Flathead communities. This dispersed-type commercial development is most prominent on US 2 en route to Glacier National Park. These types of commercial land uses are also occurring on US 93 north and south of Kalispell, and on US 93 south of Whitefish.

Commercial strip development along US 93 and US 2 has contributed to growth of the volume of traffic and to the complexity of traffic movements within Kalispell and Whitefish. Low-density commercial development in rural areas add vehicle trips and induce turning movements which interfere with the free flow of through traffic in rural areas.

3.1.3.3 Industrial

The Flathead Valley's major industrial employers were historically located along railroad corridors. The Columbia Falls Aluminum Plant and Plum Creek and other major wood products manufacturers continue to be located on rail corridors. The wood product manufacturers are a predominant destination for semi-truck traffic. As the county's industrial economy has shifted away from heavy manufacturing, much of the growth in industrial-type land use development has occurred along or near highway corridors.

3.1.3.4 Agricultural

Flathead County agriculture occurs mainly in the Flathead Valley. The Flathead Valley contains between 48,600 and 56,700 hectares (120,000 and 140,000 acres) of prime agricultural lands (FRDO, 1987). Most of this land is located in central and eastern portions of the Flathead Valley. Residential development in rural areas is resulting in the conversion of substantial amounts of agricultural land to non-agricultural land uses. There also is a trend for conversion of large farming units into multiple mini-farms. The smaller farm units are purchased for hobby farms, tax shelters, and/or for land speculation purposes.

3.1.4 Land Use Planning

Master plans have been adopted by the cities of Kalispell (in 1986), Whitefish (in 1987). These plans identify land use designations for areas included within city limits and a 7.24-kilometer (4.5-mile) extraterritorial planning jurisdiction.

Kalispell land use designations encourage commercial and industrial development in existing business and industrial districts, and discourage such developments elsewhere. The Kalispell plan discourages the expansion of commercial strip development northward on US 93. The Kalispell plan was recently amended to permit industrial development along US 93 south of the city. The Kalispell plan allows for more intensive residential development within the city and in unincorporated areas served by community water and sewer services. The Kalispell plan designates adjacent areas to the south and west of the city as residential growth areas. The plan restricts residential development in outlying rural areas to very low densities, in order to preserve agricultural lands, wildlife habitat, and environmental resources (water quality in particular) and allow for efficient provision of public services.

The Whitefish plan allows for commercial development along the US 93 corridor south to Montana Highway 40. The plan generally encourages higher density residential near the city Central Business District and along the US 93 corridor. The plan encourages medium and lower density residential development elsewhere in the city. A goal of the Whitefish plan is to preserve agriculture and environmental resources in rural areas by sanctioning residential development only at very low densities. This plan is currently being revised.

Areas outside of city planning jurisdictions are covered by the Flathead County Comprehensive Plan which was adopted in 1987. The objectives of this plan include the preservation of agricultural lands, wildlife habitat, and environment quality. The county plan encourages the concentration of residential, commercial, and industrial land uses within cities, unincorporated communities, and other already developed areas. Zoning is not adopted for many areas outside of the Flathead Valley and considerable commercial and residential development has occurred which is discordant with the land use objectives of the county master plan (see Figure 3-1). Unplanned rural residential development has also been allowed to occur because of Montana subdivision laws, which allowed land parcels to be systematically converted to residential land uses without public review. The 1993 Montana Legislature amended the state subdivision law.

In 1993 and 1994, the Flathead Cooperative Planning Coalition is sponsoring a "Flathead County Master Plan Update." It is the intent of Cooperative Planning Coalition to develop a plan and implementation program which achieves the preservation of agricultural lands and environmental resources, and the efficient provision of public services through the "management of future growth." **A draft of the plan was complete as of March 1994.**

3.1.5 Future Land Use Projections

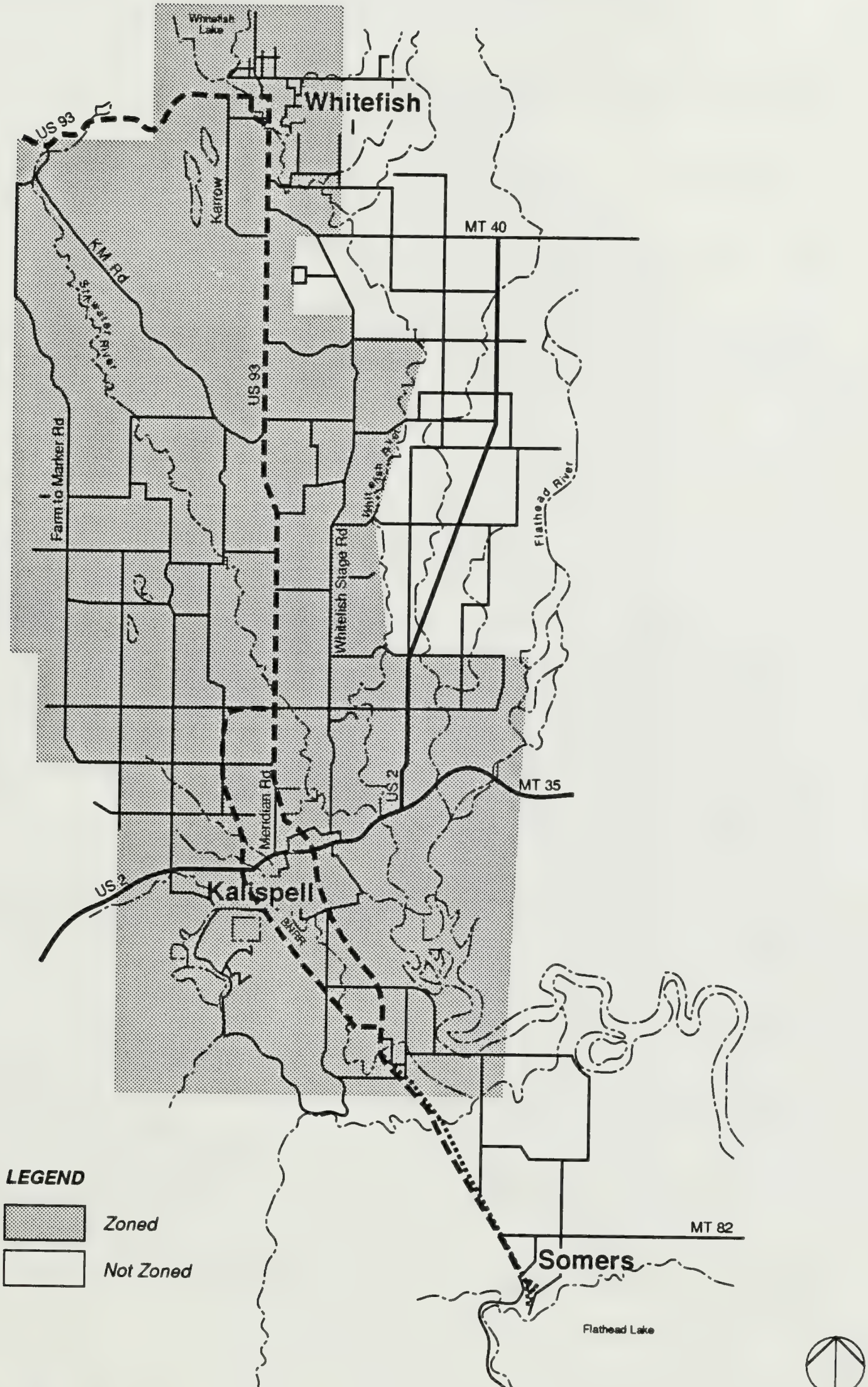
Two land use advisory subcommittees were convened for this project to analyze existing trends and forecast future land use patterns in the Flathead Valley. The committees consisted of local professionals familiar with local land development and planning activities. The committees included representatives from city and county governments, local government planning agencies, public health agencies, federal agriculture agencies, local utilities, the US Postal Service, and private planning consultants.

The land use subcommittees focused on the central Flathead Valley. The group predicted that, based on past growth trends, substantial new residential development is likely to occur in nearby existing urban areas. Substantial growth was predicted to the north and west of the City of Kalispell, and in the old fairgrounds area **along Meridian Road**. Substantial growth was also predicted for northern and western sections of the City of Whitefish. The land use subcommittees also predicted continuing suburbanization of rural areas of the central Flathead Valley; particularly between Kalispell and Whitefish. The latter development was cited as displacing important agricultural lands.

The greatest concentrations of new commercial development were predicted to occur along major highways inside city boundaries. Kalispell was predicted to attract most of the commercial development. In particular, the US 2 corridor in vicinity of the US 93 intersection was predicted to attract substantial new commercial development. The committee also predicted continuing commercial development along US 93 south of Kalispell and Whitefish and limited new commercial development along rural highway corridors.

Considerable new industrial development was predicted to occur south of Kalispell along US 93 and along the US 2 corridor between Kalispell and Columbia Falls.

In addition to land use projections developed in conjunction with the land use advisory committees, the Flathead Cooperative Planning Coalition (CPC) requested that a managed growth land use scenario be developed. This scenario emphasized the preservation of agricultural uses and natural environmental qualities in rural areas of the county. In this scenario, most new residential, commercial and industrial development is predicted to occur inside or immediately adjacent to existing communities. The managed growth scenario was reviewed by CPC and Design Workshop, Inc., the consulting firm which prepared the update of the county comprehensive plan.



Somers to Whitefish
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Figure 3-1
Locations of Existing Zoned Areas

3.2 Farmland

Prime and unique farmland is protected by the Farmland Protection Act. Coordination is required with the USDA, Soil Conservation Service.

Montana is ranked **second to Texas** nationally in farm and ranch acreage with over 24.3 million hectares (60 million) acres in use. Harvested area including both irrigated and non-irrigated for the year 1991 was 183,436 hectares (452,930 acres). Within Montana, Flathead County is considered above average for agricultural production due to its very fertile soils. Its primary crop **is** barley and **its** primary husbandry activity is cattle and dairy.

The following Table 3-1 is a synopsis of agricultural activities within the Flathead Valley for the year 1991.

Table 3-1
Flathead Valley Agricultural Activities

Crop	Harvested Acres/Head	Yield Per Acre (Bushels)	State Ranking
Wheat	11,000	59.6	28
Barley	31,500	75	11
Oats	700	59	43
Potatoes	1040	300/Cwt.	-----
Hay	37,000	2.58 tons	25
Cattle	19,600	-----	45
Hogs & Pigs	5,800	-----	14

This table was compiled from county agricultural statistics for Flathead County so it does not necessarily apply to the specific Somers to Whitefish study area. However, the agricultural areas in Flathead County reasonably correspond to the study area, so these county statistics are applicable.

3.2.1 Agricultural Geography

The specific agricultural geography of the Flathead Valley and thus the Somers to Whitefish study area is described in Figure 3-2. The arable land correlates to the valley topography and extends to each of the distinct valley edges where there is abrupt change in relief. These specific grade changes between the vertical mountains and the plains of the valley mark the outer edges of agriculture. Lands between these edges are farmable in varying degrees with the exception of large portions of the Flathead River floodplain and smaller portions of the other tributary floodplains which are overly saturated and not suitable for cropping.

The balance of the land within the county and/or study area is forested mountain woodland and or meadow land too small to be farmed efficiently. These upland forests and pastures are used for grazing and other livestock activities.

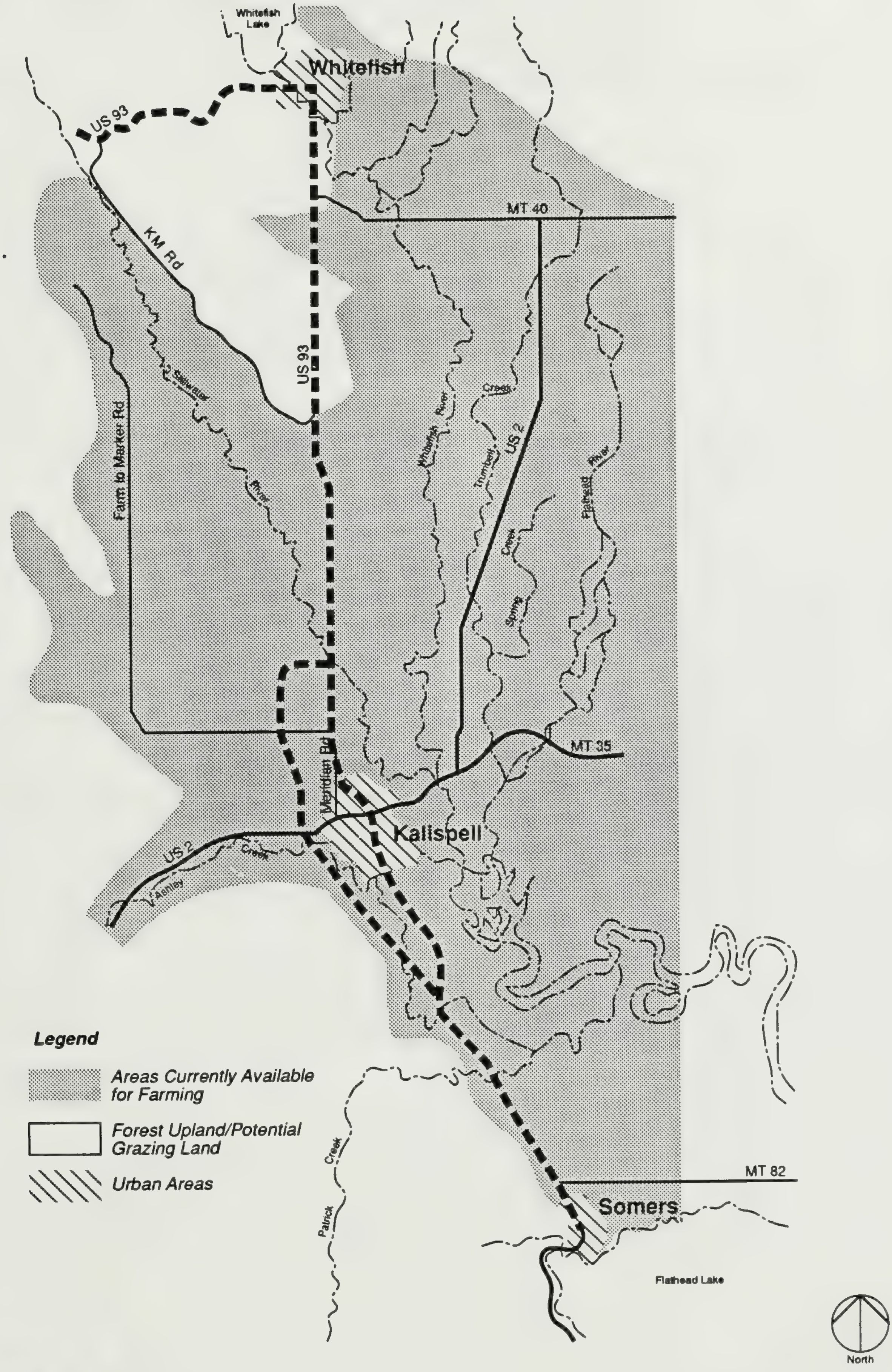

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Figure 3-2
Arable Lands

3.2.2 Prime and Unique Farmland

Figure 3-3 is a map showing Prime Farmland, Prime Farmland if Irrigated and Farmland of Statewide Importance. There are obvious concentrations of these categories within the larger valley. These concentrations relate to specific soil association although not on a one to one basis. There is a large area of Prime Farmland and Prime if Irrigated Farmland located mid valley just to the northwest of the City of Kalispell. On the eastern edge of the valley, east of the Flathead River is another large area of Prime farmland known as the Creston Bench. Along US 93, there are blocks of Prime Farmland located between Somers and Kalispell and just north of Kalispell. There are also blocks of Prime Farmland located along Kalispell Alternative B.

Two distinct areas of farmland that are of statewide importance are located in the valley. One is east of the Four Corners junction on both banks of the Flathead River, corresponding approximately to the 500 year floodplain in this area. The other is located along KM Road in the Stillwater drainage.

There are no Unique Farmlands mapped within the Somers to Whitefish study area.

3.3 Social

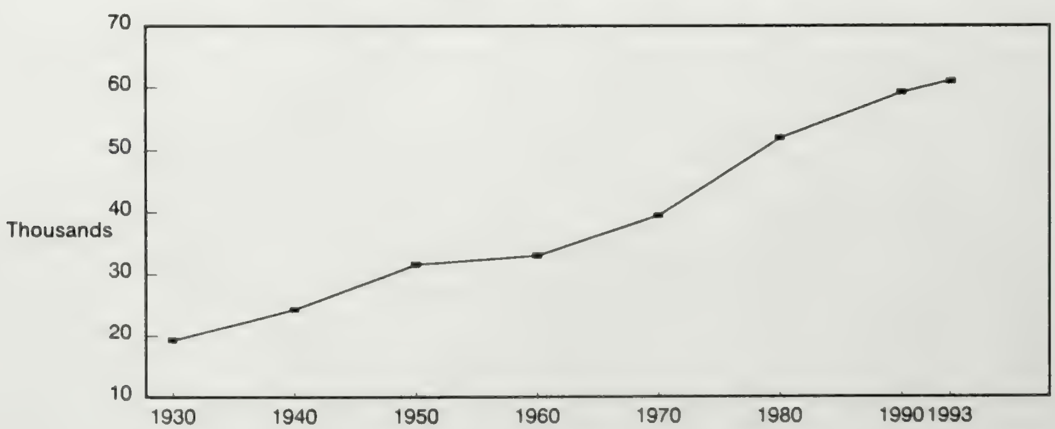
3.3.1 Population Trends

Flathead County is one of Montana's fastest growing counties. The 1994 population of Flathead County is estimated to be 64,000.

The county's population is centered in the Flathead Valley, with the vast majority of county residents living within 10 miles of US 93. Population growth and the tendency for new settlement to occur in rural areas has contributed importantly to increasing traffic on US 93 and other area highways and major roads.

Table 3-2 displays historic trends in Flathead County's year-round population. The county has experienced growth in each decade since the 1930s.

Table 3-2
Flathead County Population Trends - 1930-1993

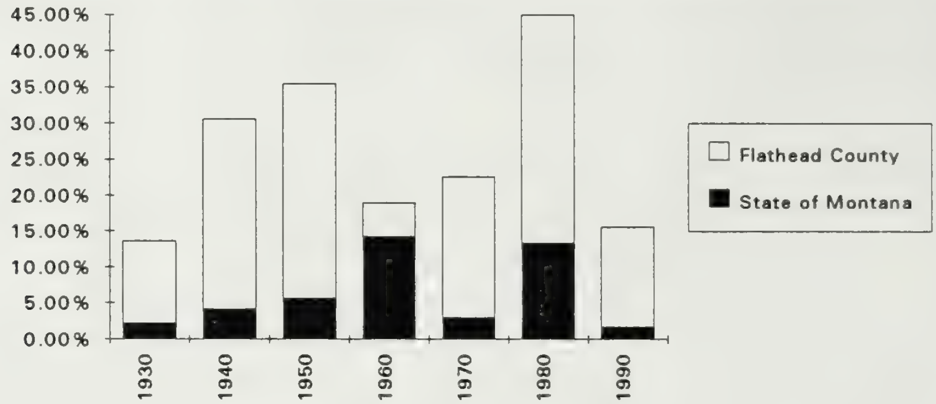


Somers to Whitefish Environmental Impact Statement

Figure 3-3
Prime Farmland

Flathead County population is growing much faster than the state as a whole. Table 3-3 compares historic population trends for Flathead County and the State of Montana.

Table 3-3
Comparison of Population Growth Trends
Flathead County and State of Montana (Year Round Population) - 1930 to 1990



Source: US Department of Commerce, Bureau of the Census. US Censuses of Population, 1930-1990.

In recent decades the Flathead County's population growth has occurred in spurts. The county's population grew rapidly in the late 1970s and early 1980s, then slowly during the mid- and late 1980s. In the early 1990s, the Flathead is experiencing another period of rapid growth; averaging greater than two percent a year growth since the census (1994 population estimates are based on permit data for new dwelling units developed by Flathead County local governments).

3.3.1.1 Seasonal Population

Flathead County's status as a destination resort area causes it to support a larger population during summer than during the off-season. This population peaks during July and August, and contributes importantly to traffic volumes on US 93. Table 3-4 compares estimates of the county's year-round and seasonal resident populations in 1990. In 1993, the county's mid-summer population was estimated to exceed 74,000. Estimates do not include persons staying at over-night lodging facilities.

Table 3-4
Comparison of Year-Round and Peak Summer-time Populations
Flathead County, Montana, 1990

			Net Increase
	Year Round	Peak Summer*	In Summer
1990	59,218	69,178	9,960

** Estimates of peak summer population assume housing is 99 percent occupied during mid-summer.*

Flathead County also experiences winter-time population increases due to the presence of the Big Mountain Ski Resort. The influx of ski-season residents is much less than the influx of summertime residents. The winter-time seasonal population is centered in the Whitefish area, although skier accommodations extend as far south as Polson, with skiers commuting daily to Big Mountain. Big Mountain is planning for an expansion. In addition, there is ongoing development adjacent to the ski resort.

3.3.2 Population Distribution Patterns

Population growth is occurring in much of central and southern Flathead County, with the Kalispell, Whitefish, and the Creston-Big Fork census divisions attracting the greatest shares of the county's growth.

Most population growth is occurring outside of the boundaries of the county's three incorporated cities. From 1970 though 1993, 86 percent of Flathead County's population growth occurred outside of Kalispell, Whitefish, and Columbia Falls. During this period, the portion of the county's population living inside cities decreased from 42 to 31 percent. The trend for most new settlement to occur outside of cities is consistent with settlement patterns occurring in other growing areas of western Montana.

The Flathead's seasonal residents tend to reside in areas near Whitefish Lake, Flathead Lake, the Bob Marshall and Great Bear wilderness areas, Glacier National Park, the Big Mountain Ski area, and the area's smaller lakes. Most seasonal residents reside outside of cities. The exception to this pattern is in the City of Whitefish, which encircles much of Whitefish Lake.

3.3.3 Demographics and Social Characteristics

The discussion of Flathead County demographic and social characteristics is based on information from the 1990 Census of Population. Flathead County is more racially homogeneous than the statewide population. In 1990, 98 percent of the county's population was classified as white, compared to 93 percent of the Montana population. The county's largest racial minority is Native American Indians. Indians constituted about 1 1/2 percent of the county's 1990 population. About 1 percent of county residents were of Hispanic origin (US Department of Commerce, Bureau of the Census, 1991).

Flathead County's population tends to be slightly older than the state norm. The census reported the median age for county residents to be 35.3 compared to 33.8 for the state as a whole. About the same percentage (13.0%) of Flathead County residents were 65 or older as for Montana a whole (13.3%). The county's older median age results from proportionately more county residents being in middle age groups and fewer in younger age groups than is typical in Montana.

Fifty-two percent of county residents were born in Montana compared to 60 percent of state residents. This difference reflects the effects of in-migration of non-Montanans to the Flathead area.

Average incomes for Flathead County residents were higher than the state norms. The county's 1989 median household income was $24,145 compared to $22,998 for Montana. The per capita income for county residents was $11,718 and $11,213. Proportionately fewer Flathead residents had incomes below the poverty level; 14.5 percent of county residents had incomes below the poverty level compared for the 16.1 percent for the state as a whole.

Housing costs are higher in Flathead County than in the state as a whole. The median housing cost reported by the 1990 census was $64,200. The county's median rent was $332 compared to $311 for the state. Flathead area

housing costs have increased substantially since the census. From 1990 to 1993, the median sale price for a Flathead County house has increased from $58,000 to $88,000 (Jim Kelley, 1994). This is particularly true in summers when there are virtually no vacancies in rental housing (Ross Plambeck, 1993) Recent inflation in the cost of housing is reflected in increases in the county's taxable valuation. Taxable valuation of residential property in Flathead County increased by over 20% from 1990 to 1993 (Bradley Simshaw, 1993).

3.3.4 Population Projections

Population projections were developed for 2000 and 2015. The projections were developed using a linear regression technique based population trend data from 1970 through 1993. Flathead County is predicted to continue to experience substantial population increases. Flathead County's year-round population is predicted to grow by over 27,000 persons by 2015, a 46 percent increase. If Flathead County's seasonal population experiences parallel increases, the county's mid-summer 2015 population will exceed 100,000 people.

New settlement is predicted to occur throughout the Flathead Valley, with the Kalispell, Whitefish, and Creston-Big Fork census divisions expected to capture the greatest share of county population growth.

If current trends continue, most of the future increase in population will occur outside of the cities. Only about 16 percent of the area's net increase in population will occur within city boundaries (cities could substantially increase this percentage through aggressive annexation of peripheral residential areas). Increases in the Flathead's seasonal population will continue to occur mainly in rural areas. The exception to this will occur in Whitefish, where Whitefish Lake, skiing, and other resort type amenities are predicted to encourage infilling of undeveloped land inside the city.

3.4 Economic Conditions

3.4.1 Factors Contributing to Traffic Growth

Economic growth has contributed importantly to increasing traffic on US 93. US 93 functions as the "main street" in both Kalispell and Whitefish. As such, it serves as a focus for local area and county-wide commerce. Flathead County agriculture, manufacturing and resource extraction industries use US 93 to transport raw materials and production to and from processing and regional distribution centers. The highway also serves as a major travel corridor for tourists visiting Glacier National Park and other Flathead County attractions. Many Canadians use US 93 to access shopping in Flathead County. The highway also functions as the major north-south corridor connecting local and drive-through commercial truck and other business traffic with destinations elsewhere in Montana, the US, and Canada.

Much of the Flathead's recent economic growth has occurred in businesses catering to tourists, local and regional trade, and drive through travelers. Growth in these retail and service businesses has been concentrated on US 93 and US 2. This business development contributes importantly to the volume and increasing complexity of traffic flows on these highways.

The summertime peak in traffic on US 93 corresponds to the peak in activity for the Flathead County economy. Business sales and employment related to drive-through traffic, local tourism, seasonal residents, and shopping visits by Canadians occur mainly in summers. Likewise, employment in local construction, wood products, and agricultural industries and federal government agencies is greatest during the warm seasons. Local economic activity and traffic on US 93 is notably reduced during the non-summer months.

Increases in labor force participation is another factor contributing growth in traffic on US 93 and other area roads. Increases in the portion of local residents in the work force has directly increased the number of work related trips originating from households within the county.

According to a survey of Kalispell business operators conducted in 1992, 32 percent of respondents operating businesses on US 93 indicated traffic congestion frequently restricted customer access to their businesses during summers. Another 35 percent of the business operators felt summertime congestion occasionally restricted customer access (Kalispell Business Operators Survey, 1992).

3.4.2 Overview of the Flathead County Economy

The Flathead County economy is growing much faster than the economy of Montana as a whole. From 1970 through 1991, the number of persons employed in the county increased by 111 percent and personal income grew by 89 percent. During the same period, statewide employment increased by 47 percent and income grew by 54 percent (income estimates are adjusted for inflation and presented in 1991 dollars) (US Department of Commerce, Bureau of Economic Analysis, 1993).

Economic growth in Flathead County reflects the effects of an expanding and more diverse economic base. Tourism, regional trade (particularly with Canadians), and the economic effects of the area's general population growth have been important contributors to the area's recent economic growth. Also prominent in the expansion of the economy is sizable growth in investment and transfer payment income accruing to county residents. The area's traditional basic industries (natural resource extraction and processing, manufacturing, transportation, and agriculture); continue to play important roles in the Flathead economy; however, these industries have **little** to do with recent economic expansion.

The economic base of an area is comprised of those economic activities which bring outside income into a local economy. Basic economic activities benefit local economies through the direct creation of jobs and income for area residents. The economic multiplier effect occurs when basic income is spent in a local economy. The expenditure and subsequent circulation of basic income creates additional jobs and income for local residents.

The Flathead economy experiences considerable seasonal fluctuation. The economy crests during the summer season, reflecting the influences of tourism, summertime residents, and seasonal employment in construction, the wood products industry, agriculture and federal government. The off-season economy is characterized by notably reduced employment and earnings by county residents. County unemployment rates often drop below six percent during summer months and exceed 10 percent in winters (Cathy Shenkle, 1993).

The Flathead economy also tends to grow in cycles, experiencing periods of rapid expansion followed by times of little or no growth. In the early 1990s, the county economy is growing rapidly.

3.4.3 Labor Force, Employment, and Income Trends

3.4.3.1 Labor Force and Labor Force Participation

The number of people in the labor force is increasing faster than is the area's population. From 1970 to 1990 the percentage of the age 16 and older population in the labor force increased from 52 to 63 percent. This increase in the labor force participation rate results mainly from rising labor force participation by women. In

1970, 32 percent of women 16 and older were in the labor force compared with 55 percent in 1990 (US Department of Commerce, Bureau of the Census, 1991).

Since 1970, average annual employment in Flathead County has more than doubled. Average annual employment increased from approximately 15,500 in 1970 to 33,500 in 1992 (US Department of Commerce, 1993) (Montana Department of Labor and Industry, 1993). During the 22-year period, county employment has experienced cycles of brisk expansion followed by intervals of no growth or decline, but the overall trend has been for substantial increases in numbers of employed persons.

From 1970 through 1991, 87 percent of the total growth in county jobs occurred in the service, retail trade, construction, and financial (finance, insurance, and real estate) sectors. The County's traditional basic industries, farming, transportation, and manufacturing, accounted for about seven percent of employment growth (US Department of Commerce, 1993).

The Flathead economy experiences substantial seasonal variation in employment. Employment in the region's manufacturing (the wood products industry), retail, service and construction sectors peaks in summers and bottoms out in winter.

In spite of a growing economy, unemployment rates in Flathead County remain much higher than is typical in Montana. In 1992, the county's average annual unemployment rate was 8.7 percent compared to 6.7 for the state. Unemployment rates typically exceed 10 percent during the winter months (Cathy Shenkle, 1993).

3.4.3.2 Income

From 1970 through 1991, total personal income for Flathead County residents increased by 89 percent and per capita income grew by 35 percent.

In 1991, income derived from earnings accounted for 59 percent and non-earned income accounted for 41 percent of the total personal income of county residents. Earnings income includes the wages, salaries, commissions, and profits of employees and business proprietors. Non-earned income includes income derived from investments (interest, dividends, and rents) and transfer payments (mainly government payments).

From 1970 to 1991, non-earned income's share of Flathead County resident income rose from 24 percent to 41 percent; while the share of income derived from earnings decreased from 74 to 59 percent. Growth in the non-earned income among Flathead County residents reflects the effects of the national economic changes. In-migration of retirees and others with substantial investment and transfer payment income has caused non-earned income to grow more rapidly in Flathead County than in many other areas of Montana. Because most non-earned income is derived from sources outside Flathead County, it contributes to the overall growth in the area's economy.

3.4.3.3 Earnings by Economic Sector

From 1970 to 1991, total earnings (adjusted for inflation) by county residents increased by 65 percent. This net increase in earnings income is primarily a result of more people working. Growth in earnings was much slower than the growth in local employment. As a result, real dollar earnings per job decreased from $22,000 to $19,000 from 1970 through 1991. Many new jobs in the service and retail trade sectors have been part-time or low paying jobs.

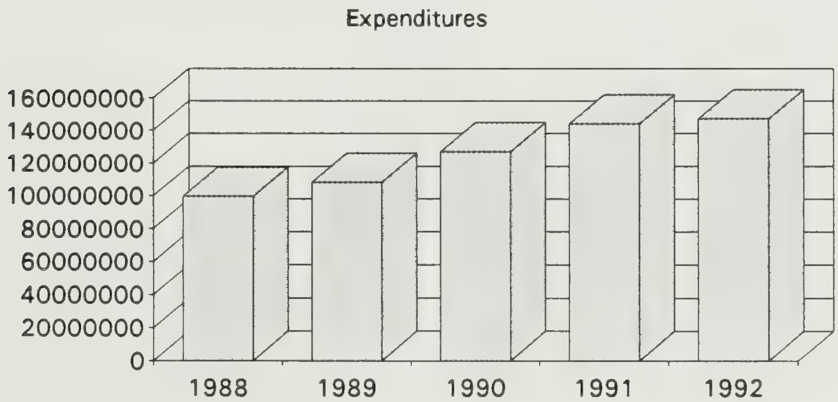
3.4.4 Economic Contribution by Industry

3.4.4.1 Tourism

Tourism is an important and growing industry for Flathead County. Major tourist attractions in the Flathead region include Glacier National Park, Flathead Lake, Whitefish Lake, the Bob Marshall and Great Bear wilderness areas, the Flathead River, the Hungry Horse Reservoir, and the Big Mountain Ski Resort. Local attractions such as state parks, golf courses, smaller lakes, reservoirs, rivers, convention facilities and community attractions (festivals, museums, theaters, galleries) also bring visitors to the region.

Travelers are estimated to have spent about $150 million in Flathead County in 1992 (Bill Martin, Executive Director, Flathead Convention and Visitors Association, 1993). Flathead County is estimated to attract about 11 percent of statewide expenditures by non-resident travelers (Montana Institute for Tourism Research, 1992). Tourism along the US 93 corridor tends to be seasonal, with over 75 percent of non-resident visits occurring in the summer.

Table 3-5
Estimated Visitor Expenditures* in Flathead County - 1988-1992

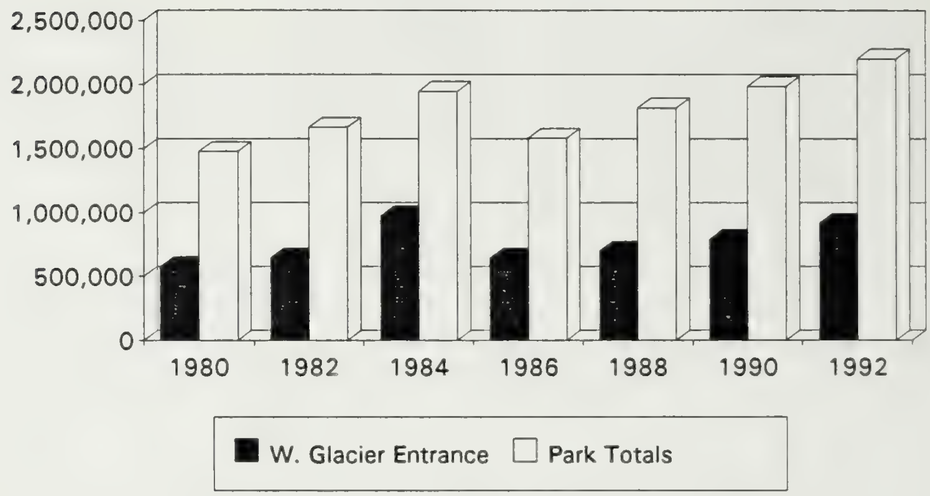


**Expenditure totals are estimates developed by the Flathead Convention and Visitors Association. Totals include expenditures made by out-of-state and in-state residents. 1988-1991 expenditure estimates are adjusted for inflation and presented in 1992 dollars.*
Source: Bill Martin, Director, Flathead Convention and Visitors Association, July 9, 1993, Kalispell, Mt.

Over the past decade visitors to Glacier National Park and the Big Mountain Ski resort have been growing at about four percent a year.

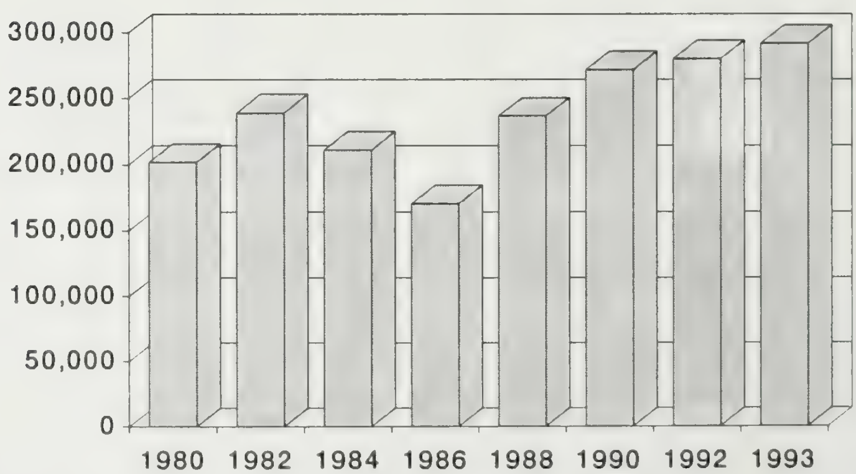
Tables 3-6 through 3-9 illustrate annual growth in visitors to the park and ski resort. In 1993, an abnormally cool and damp summer contributed to a slight decrease in the number of Glacier Park visitors (Vanderbilt, Amy, 1993).

Table 3-6
Annual Visitors to Glacier Park and West Glacier Entrance
For selected years 1980-1992



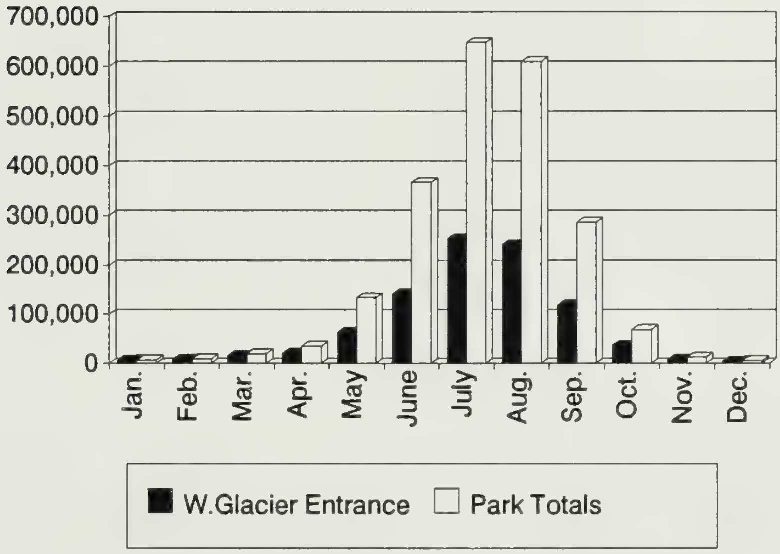
** West Glacier is the main entrance into the park from Flathead County.*
Source: Nelson, Jerry. Information Officer, US Park Service, Glacier National Park, July 7, 1993, West Glacier, Mt.

Table 3-7
Annual Skier Days at the Big Mountain Ski Resort
1980-1992



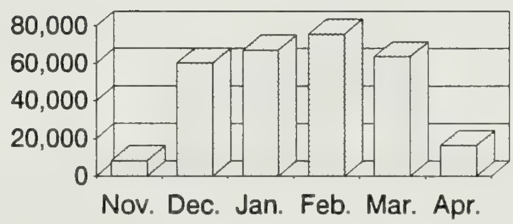
Source: Anne Moran, Marketing Representative, Big Mountain Ski Resort, July 11, 1993, Whitefish, Mt.

Table 3-8
Monthly Visitor Counts Glacier National Park
1992



Source: Nelson, Jerry. Information Officer, Glacier National Park, July 7, 1993, West Glacier, Mt.

Table 3-9
Monthly Skier Days, Big Mountain Ski Resort
1992-1993 Ski Season



** skier days in December 1992 and January 1993 were lower than expected because of extremely cold temperatures occurring during the holiday season. Big Mountain's ski facilities were open for a limited number of days in November and April.*

The economic effects of population in-migration and expansion of the Flathead area tourism industry are major factors contributing to recent employment and income growth in the Flathead Valley. In-migration and growth in tourism have served to off-set sluggish growth and/or declining employment and earnings in the Flathead's historically dominant industries.

In many areas of Montana, reductions in employment and earnings within historically dominant industries have resulted in overall decline in local and regional economies and loss of population. The Flathead area economy has been able to develop new basic economic activities when its traditional basic industries have become less able to support employment and population. Primary metal manufacturing, forest products, transportation, and agriculture continue to make important contributions to the area's economy, but they are less central to its overall performance than in the past. In-migration related economic growth and expansion of the tourism economy has enlarged and created a more diverse economic base for the Flathead area. The Flathead economy has also benefited from growth in small scale manufacturing, regional and international trade, and government employment.

3.4.4.1.1 In-migration:

In recent decades the Flathead area has experienced periods of rapid population growth followed by periods of slow or no growth. The recent period of rapid population growth began in 1991 and has extended into the mid-decade.

The Flathead area is one of several high amenity areas in Montana and elsewhere in the Rocky Mountain region experiencing substantial of in-migration of persons from more populated states. Much of the recent in-migration is motivated by the attractiveness of the Flathead as a place to live, not by the intrinsic opportunities afforded by the Flathead area economy. As with many of the other growing areas in the Rocky Mountain west, in-migrants are attracted to the Flathead by the area's natural beauty, recreation opportunities, and lifestyle.

The housing demand created by population in-migration has motivated considerable growth in employment and earnings in local the real estate, construction, and financial sectors. Also creating long-term growth in employment and earnings are day-to-day personal expenditures by the in-migrants. The effects of in-migrant expenditures are felt throughout the economy, but have greatest impacts on the retail trade and service sectors.

Many of the people moving to the Flathead area bring with them ample financial resources. For some in-migrants, telecommunication technology now provides ability to maintain long-distance linkages with earnings opportunities elsewhere in the US. These in-migrants can live virtually anywhere and have chosen to move to the Flathead Valley because of the quality of life it affords. Other in-migrants to the Flathead bring with them skills and entrepreneurial expertise which serve to fuel and support additional economic growth within the Flathead region.

3.4.4.1.2 Tourism Trends

Growth in tourism also is contributing importantly to the overall expansion of the Flathead Valley economy and the ability of the area to sustain a growing population. Steady growth in tourism and

tourist expenditures is occurring at major tourist attractions throughout the Rock Mountain west. For example, the pattern of increasing visitation at Glacier National Park is similar to what is occurring at Yellowstone, the Grand Canyon, and Zion National Parks. An increasing portion of Rocky Mountain tourists are residents of foreign countries. Because foreign tourists tend to spend more during their vacations than do domestic tourists, the growth in foreign visitation has served to further increase the benefits of tourism on local and regional economies.

Tables 3-6 to 3-9 display trends in visits to selected Flathead area tourist attractions. The steady growth in Flathead area tourism has contributed to expansion of employment and earnings in tourism oriented businesses sectors. The indirect and secondary economic effects of local expenditures by tourist businesses and their employees has further increased local jobs and earnings. Most of the tourism oriented employment and earnings growth is in the retail trade and service businesses. A downside of tourism oriented growth is that many of the new jobs are part-time or seasonal, and most of the jobs are low paying.

3.4.4.1.3 Traditional Basic Industries:

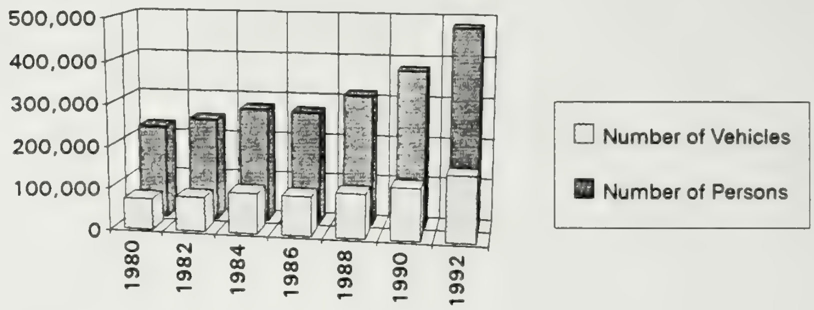
Employment and earnings in Flathead County's traditional basic industries: forest products, primary metal processing, railroad transportation, and agriculture have experienced little or no growth in the last 20 years. The major employers in these sectors have reduced their workforces due to mechanization of previously manual tasks and changes in markets and business operating practices. Depletion of harvestable timber has also contributed to declining employment by forest products businesses. Contributing to the reduced role of agriculture in the Flathead economy has been the conversion of agricultural land into residential subdivisions and the transformation of full-time agricultural operations to hobby farms and ranches.

Substantial employment and earnings growth are occurring in the service, retail trade, construction, financial (finance, insurance and real estate) sectors. Meanwhile, employment and earnings in manufacturing, transportation, and agriculture and forestry have experienced little or no growth. The increases which have occurred in these economic sectors are generally occurring in a growing number of smaller businesses, rather than in the limited number of industry-specific prominent businesses which have historically dominated the Flathead area's economic base.

3.4.4.2 Trade with Canada

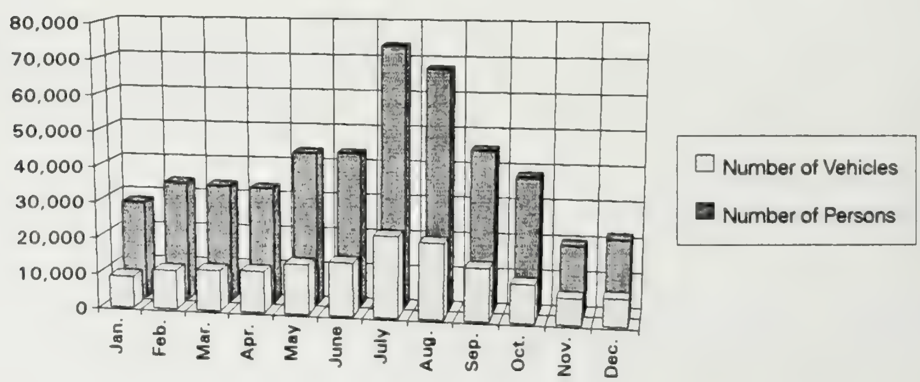
Located on US 93, the Port of Roosville is a major port of entry for Canadians coming in to the United States from Alberta and British Columbia. Favorable US prices for consumer goods encourage Canadians to shop in bordering US communities. The Flathead economy benefits from substantial Canadian trade. Flathead businesses also benefit from expenditures by Canadians traveling US 93 and US 2 enroute to other destinations in the United States. From 1980-1992, the number of border crossings at Roosville grew at about 9 percent per year (Rex Edwards, Port Director, Port of Roosville, 1993). The border crossing is busiest in the middle of the summer. There were fewer border crossings from Canada in 1993 than in 1992.

Table 3-10
Annual Border Crossings into the United States at the Port of Roosville, Mt.
1980-1992



Source: Edwards, Rex. Port Director, Port of Roosville, US Customs Service, July 7, 1993, Roosville, Mt.

Table 3-11
Monthly Border Crossings into the United States at the Port of Roosville, Mt.
1992



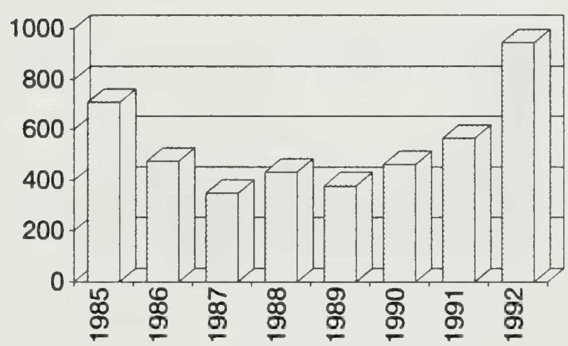
Source: Rex Edwards. Port Director, Port of Roosville, US Customs Service, July 7, 1993, Roosville, Mt.

Customs officials expect border crossings at the Port of Roosville to experience long-term increases, and speculate that the North America Free Trade Agreement between the United States, Canada, and Mexico could serve to further increase travel into the US from Canada (Rex Edwards, Port Director, Port of Roosville, 1993).

3.4.4.3 Construction

In-migration to Flathead County has contributed to a thriving local housing industry. The percent of total employment and earnings in Flathead County's construction sector is much greater than is typical in Montana. In 1991, construction accounted for 6.9 percent of total jobs and 7.2 of total earnings in Flathead County, compared to 4.8 and 5.4 percent of jobs and earnings for Montana (U.S Department of Commerce, Bureau of Economic Analysis, 1993). Employment and earnings in Flathead County construction increased considerably in 1992. Because the much of the money used to purchase the new homes comes from outside of Flathead County, it functions as basic income for the local economy. Table 3-12 displays annual permits for new housing in Flathead County from 1985-1992.

Table 3-12
Flathead County Annual New Housing Permits



3.4.4.4 Manufacturing and Transportation

Aluminum smelting, forest products harvesting and manufacturing, and railroad transportation remain important contributors to the Flathead County economic base. These industries support high paying jobs. The industries also make significant purchases of goods and services from other local businesses, creating other jobs and income within the Flathead economy.

None of these primary industries is likely to experience major increases in employment. Employment in forest products is expected to decrease due to depletion of harvestable timber and automation. Future growth in Flathead County's manufacturing and transportation sectors is most likely to occur among emerging smaller businesses.

3.4.4.5 Agriculture

Agriculture remains an important portion of Montana's economy. It is the number one industry in the state running slightly ahead of travel and tourism. In 1992, agricultural cash income including government payments totaled about two billion dollars.

In 1992, Flathead County ranked 18th in crop production ($11.6 million in receipts) and 34th in livestock production ($11.6 million in receipts) among Montana counties. Principal crops grown in Flathead County include barley, wheat, and hay. Seed potatoes and mint are a high value specialty crop grown in parts of the Flathead Valley. Predominant livestock raised in the county are beef cattle, dairy cattle, and sheep. Although the number of farms and persons employed in agriculture in Flathead County has increased, this is largely the result of hobby farms. Rural subdivisions are reducing the number of full-time farms and ranches in the county. Agriculture's importance to the area's overall economy is decreasing.

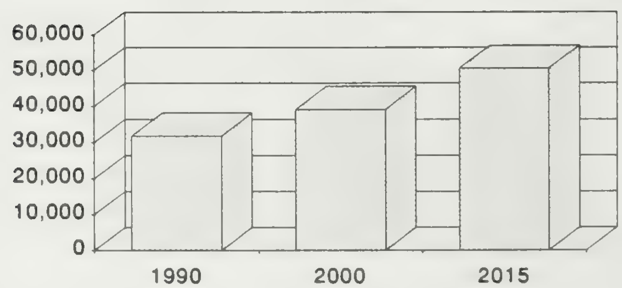
3.4.5 Economic Projections

Employment projections are used to describe the future characteristics of the Flathead County economy. Projections call for continuing economic growth in the study area economy. The majority of this growth is expected to occur in the service and retail sectors. The region's traditional basic industries (manufacturing, transportation, and agriculture will account for only a small share of the overall job growth).

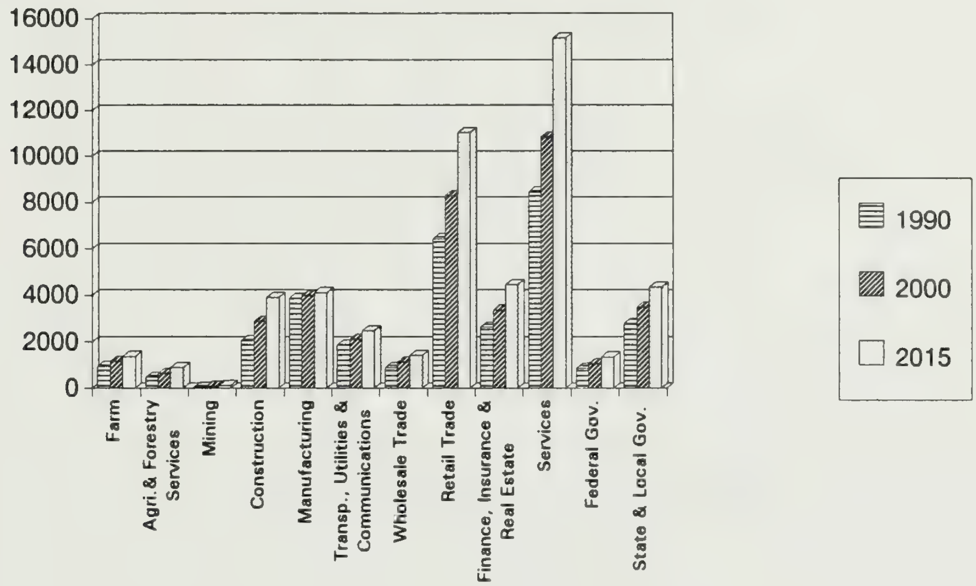
Table 3-13 displays employment projections for Flathead County for the 2000 and 2015 period. Projections were developed using a linear regression technique based on employment data from 1969 through 1992.

Table 3-13
Flathead County Employment Projections
Total Employment and Economic Sector – 1990-2015

Total Employment Projections:



Employment Projections By Economic Sector



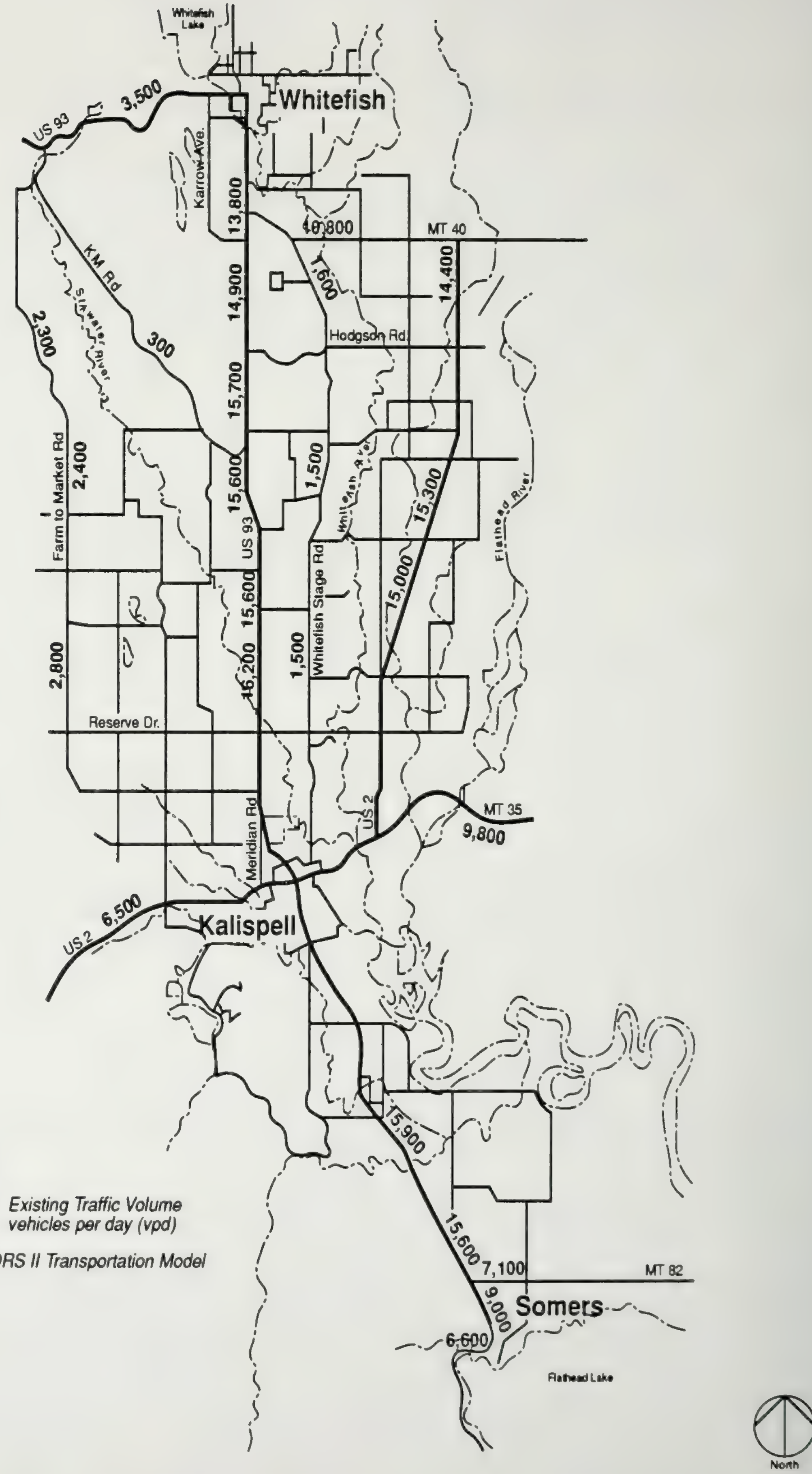
From 1990 through 2015, average annual employment in Flathead County is predicted to increase by 59 percent. Employment growth in the Flathead will be much more rapid than in most of Montana, and will contribute to significant increases in the volume of traffic carried by area roadways. The concentration of economic growth in the commercial oriented economic sectors (retail, service, financial) will contribute to business growth along area highways and other major travel corridors.

3.5 Transportation

This section provides a general overview of transportation in the study area. Much of this information is discussed in greater detail in Chapter One of this document.

US 93 serves as a primary travel corridor for the Flathead Valley. The only other **primary** travel corridor in the Valley is US 2. Major roads in the area with 1993 traffic volumes are shown on Figure 3-4.

A summary of accident rates is provided in Chapter One -- Purpose and Need. The summary indicates several roadway segments that are above the statewide averages. Several accidents are a result of substandard intersection design (no provision for either left turns or right turns from US 93) on a high-speed roadway.



LEGEND

15,900 *Existing Traffic Volume vehicles per day (vpd)*

Source: QRS II Transportation Model

Somers to Whitefish
Environmental Impact Statement

Figure 3-4

1993 Existing Modeled Summer Daily Traffic Volumes

3.5.1 Historic Traffic Volumes

Historic data was collected from a continual traffic counting program conducted by the Montana Department of Transportation. In addition, peak hour counts were taken during the summer of 1993 to identify current spot operational problems and to validate the traffic model used in the traffic forecasts.

A comparison in Kalispell at Main Street (US 93)/Idaho Street (US 2) during the summer months and the winter months was made. The Main and Idaho intersection experiences the greatest concentration of turning traffic well exceeding its capacity during summer tourist traffic flows and throughout the year.

3.5.2 Existing Level of Service (LOS)

Analyses were completed for the existing two-lane segments of US 93 based on procedures outlined in the 1985 *Highway Capacity Manual.* The qualitative meaning of each letter designation is provided in Chapter One.

The Purpose and Need chapter (Chapter One) indicates that the existing two-lane highway is generally operating at a LOS D or LOS E. These conditions are encountered during peak traffic periods during the summer tourist season. In addition, an analysis was completed for various intersections along the corridor. Generally along the corridor left turns exiting from US 93 operate at either LOS A or B. However, left turns entering the highway operate at LOS E.

3.5.3 Travel Survey

Two travel surveys were completed as part of this study to determine travel trends of drivers along the US 93 corridor and to identify the vehicle mix of traffic. The first travel survey was completed in May of 1993 and recorded information for a 12-hour period (7:00 a.m. to 7:00 p.m.). The survey was conducted just prior to the peak tourist season. The second travel survey was completed in July of 1993 for five hours (11:30 a.m. to 4:30 p.m.). The survey was completed to identify characteristics of the summer peak tourist season. July was unseasonably wet in 1993 and therefore the tourist season was slightly lower than expected.

The survey was completed using video cameras to record license plates on the highway. The data was then reduced and each station compared to the other stations. In total, eight stations were set up to collect data. Each station consisted of two video cameras, one camera recording the vehicle license plates in one direction while the other camera recorded license plates in the opposite direction. Six of the stations were set up as external stations to record data and validate the traffic model. The remaining two stations were internal stations to record trips between the City of Kalispell and the Town of Whitefish, and between the Town of Whitefish and US 2. License plates were compared within a database to determine the length of time travel. If travel time exceeded reasonable trip times, it was assumed the vehicle made a stop between stations. Results are summarized in Table 3-14 and 3-15.

Table 3-14
Travel Survey Results
Vehicle Mix

Location	Distribution of Vehicle Type		
	Automobile	Recreational Vehicle	Commercial Motor Vehicle
Based on May Survey:			
External Stations			
US 93 - West of Whitefish	87%	2%	11%
US 2 - Columbia Falls	93%	2%	5%
MT 35 - East of US 2	94%	1%	5%
US 2 - West of Kalispell	89%	4%	7%
US 93 - South of Kalispell	93%	2%	5%
MT 82 - East of US 93	94%	2%	4%
Internal Stations			
US 93 - Between Whitefish and Kalispell	93%	2%	5%
MT 40 - Between Columbia Falls and Whitefish	92%	2%	6%
Based on July Survey:			
External Stations			
US 93 - West of Whitefish	87%	3%	10%
US 2 - Columbia Falls	91%	5%	4%
MT 35 - East of US 2	96%	1%	3%
US 2 - West of Kalispell	88%	4%	8%
US 93 - South of Kalispell	91%	4%	5%
MT 82 - East of US 93	94%	2%	4%
Internal Stations			
US 93 - Between Whitefish and Kalispell	91%	2%	7%
MT 40 - Between Columbia Falls and Whitefish	94%	2%	4%
US 93			

Table 3-15
Travel Survey Results
Vehicle Trips

Location	Direction of Travel	In-County	Out-of-County	Out-of-State
May Study:				
External Stations				
US 93 - West of Whitefish	Eastbound	49%	41%	10%
	Westbound	48%	37%	15%
US 2 - Columbia Falls	Eastbound	52%	23%	25%
	Westbound	70%	20%	10%
MT 35 - East of US 2	Eastbound	66%	25%	9%

Table 3-15
(continued)

Location	Direction of Travel	In-County	Out-of-County	Out-of-State
US 2 - West of Kalispell	Eastbound	42%	45%	13%
	Westbound	41%	40%	19%
US 93 - South of Kalispell	Northbound	56%	36%	8%
	Southbound	48%	32%	20%
MT 82 - East of US 93	Eastbound	39%	45%	16%
	Westbound	31%	56%	13%
Internal Stations:				
US 93 - between Whitefish and Kalispell		30%	56%	14%
MT 40 - between Columbia Falls and Whitefish	Eastbound	73%	22%	5%
	Westbound	61%	26%	13%
July Study				
External Stations				
US 93 - West of Whitefish	Eastbound	34%	33%	33%
	Westbound	34%	35%	31%
US 2 - Columbia Falls	Eastbound	45%	27%	28%
	Westbound	49%	18%	33%
MT 35 - East of US 2	Eastbound	59%	20%	21%
	Westbound	60%	23%	17%
US 2 - West of Kalispell	Eastbound	50%	24%	26%
	Westbound	51%	23%	26%
US 93 - South of Kalispell	Northbound	36%	33%	31%
	Southbound	40%	32%	28%
MT 82 - East of US 93	Eastbound	40%	39%	21%
	Westbound	42%	35%	23%
Internal Stations				
US 93 - between Whitefish and Kalispell	Northbound	54%	21%	25%
	Southbound	51%	24%	25%
MT 40 - between Columbia Falls and Whitefish	Eastbound	56%	19%	25%
	Westbound	51%	23%	26%

Comparison of the May and July travel surveys indicate relatively little differences (± 1%) in vehicle mix in the traffic stream. Additional trips in the summer indicate a substantially higher percentage of out-of-state vehicles. An increase of out-of-state vehicles range from 2 to 23 percent for the general study area, accounting for the influx of tourists and seasonal residents to the region. Traffic on US 93 west of Whitefish and south of Kalispell was equally split between in-county, out-of-county and out-of-state vehicles, but in the off-peak season approximately 50 percent of the vehicles are either out-of-state or out-of-county.

Vehicle occupancy was also recorded during the May travel survey. Results of this survey indicated an average of 1.34 persons per vehicle. This was higher during the summer due to generally higher vehicle occupancy which is typical for tourist vehicles.

In addition to the travel survey for the entire study area, a origin-destination study was completed in 1992 as part of the *Kalispell Bypass Feasibility Study*. This license plate survey determined the number of license plate matches for cars and trucks at pairs of survey locations. Matches were determined for the full four-hour period and for one-hour increments (see Table 3-16).

Table 3-16
Through Trip Percentages of Traffic
Entering/Exiting Kalispell From
1992 License Plate Survey

Survey Location	Through Trip % of Total Traffic
US 93 North of Reserve Drive	10%
US 2 North of Reserve Drive	11%
MT 35 at Flathead River Bridge	12%
US 93 South of Lower Valley Road	10%
US 2 West of West Spring Creek Road	10%

3.5.4 Transit Service

Public transportation in the Kalispell area includes a limited fixed city bus route and special public services for elderly and disabled, other special transportation services, taxi service, charter bus service, and interstate and intrastate bus transportation.

Public transportation is provided by Eagle Transit, a division of Flathead County Area IX Agency On Aging. Eagle Transit offers demand responsive and fixed route services with deviation service to the general public. Eagle Transit also serves as a brokerage for other private transportation providers. Eagle Transit has six transport vehicles. Since there is no depot, there is no covered space to serve as a terminal for passengers or as a secure parking for Eagle Transit vehicles.

The total transit demand for Flathead County is estimated to grow from 311,939 trips in 1991 to over 520,000 trips in 1995. These figures are based on the estimated population and needs of the elderly, **disabled** and community college students.

Other transit providers include Kalispell Taxi which has authority to operate within a 50-mile radius of Kalispell providing demand responsive and route services to include the airport for up to 17 passengers. Rocky Mountain Transportation is primarily a charter bus operator in addition to school buses and has authority to operate interstate and intrastate. Glacier Park contracted with Rocky Mountain Transportation for services within Glacier National Park from spring to fall of 1992.

Intermountain Bus Lines also provides interstate and intrastate transportation services. The bus line from Whitefish to Missoula runs through Kalispell daily on a one-way loop utilizing MT 35 and US 93. Service is centered on AMTRAK service to the Burlington Northern Depot in Whitefish.

Numerous other special transportation services and nursing home transportation services operate in Flathead County. A total of 23 vehicles are being operated in the community separate from Eagle Transit and the taxi services. These services include the Flathead Industries for the Handicapped, churches, senior congregate living, special services and nursing homes.

A new shuttle service, Flathead Area Shuttle Transport (FAST) started service in 1992. Current plans call for use of two 12-passenger vans for shuttle service. Under its current agreement, FAST cannot provide inner city service in Kalispell or Whitefish. Most FAST service will be between Kalispell and Glacier National Park. FAST will also provide service to The Big Mountain Ski Area and to Bigfork (including the Eagle Bend Resort).

WART (Whitefish Area Rapid Transit) provides public bus service from Whitefish to The Big Mountain ski area from the third week of December to the first week of April. During the ski season, WART operates one bus that makes six round trips from 8:15 a.m. to 10:30 p.m. daily. WART usually uses a 39 passenger bus on weekdays and a 47 passenger bus on weekends with a backup bus or van available to handle rider overflow.

3.5.5 Rail Service

Amtrak's "Empire Builder" arrives and departs daily from Whitefish for the West Coast and the East Coast. The train to the east arrives in Whitefish at 6:35 a.m. and departs at 6:45 a.m. and the train to the west arrives at 9:38 p.m. and departs at 9:48 p.m. The average capacity of the train is 396 passengers. **Amtrak loadings and unloadings at Whitefish totaled 54,532 passengers in 1991. This represents by far the largest number of Amtrak passengers using any Montana station. Besides service to the east and west coast, the Empire Builder also provides connections to numerous other Amtrak routes serving other parts of the country.**

Burlington Northern Railroad (BNRR) lists daily train movements in Kalispell crossing Main Street and Meridian Road as 1.6 per day. This figure is equivalent to two movements per day, five days a week, with two days of no train activity along the track through town. Only two trains per week (four train movements) run along the segment of track south of the wye west of the city. This section of track could be abandoned; however, the railroad has stated they will not close any rail line where shippers are active. Use of that line from Balls Crossing through the city could only be initiated following the abandonment process. This process must be implemented by the railroad through the Public Service Commission, Interstate Commerce Commission, or both. In addition, MDT, Transportation Planning Division, requests review for comment for these proceedings.

BNRR clientele in Kalispell includes Swallow Grain, the O'Neill Family (two customers), Flathead Beverage and Lee Distributing (one site), **Carl Weissman and Sons**, and Equity Supply. A significant portion of wood products shipped from Plum Creek are moved out of Evergreen via rail. Other commodities shipped by rail are few. An intermodal container facility in the Kalispell area has been discussed. The nearest intermodal facility is in Shelby.

Present Kalispell economic development efforts include plans to relocate the downtown railroad tracks and industries that are dependent upon rail service to outlying areas of the city. Due to its current customer base, however, BNRR has no immediate plans for relocation of the track through the city center.

3.5.6 Air Service

The Glacier Park International Airport in Kalispell, located along US 2, has undergone three improvement projects recently totaling $1.56 million. The three projects have allowed the airport to handle larger aircraft and more passengers in the terminal as well as providing direct access to jet planes. The two projects at the terminal included adding a Jetway passenger-loading bridge and increasing the size of the terminal by moving the south wall. The third project upgraded the capacity of the airport by increasing the width of the taxiways. This allows the airport to accommodate the largest commercial aircraft flying today. The improvements made to the terminal are expected to be sufficient for eight years and the taxiway paving should last at least 15 years before needing additional work.

The airport has two airline carriers, Horizon (an affiliate of Alaska Airline) and Delta. June through September is the peak season for air travel with Delta having three flights a day and Horizon having 19 flights a day. Both Delta and Horizon drop one flight per day for the other eight months. The higher summer time travel is attributed to Glacier National Park visitors. The winter trips are lower and allow for growth during this period.

In 1993, for the sixth year in a row, Glacier Park set a record for commercial passenger traffic. Passenger traffic increased by 4.2 percent over 1992.

3.5.7 Transportation Plans

3.5.7.1 Kalispell Area

Goals from the *Kalispell Area Transportation Plan* are to develop a comprehensive circulation system which serves the combined needs of the community, planning jurisdiction and region and provide safe, convenient and economic access to all facilities throughout the area.

Objectives tied to this goal are:

- Establishment of a ring arterial street classification system to improve travel through the city and within the city.
- Require off-street parking to meet the needs of new construction.
- Develop a pedestrian-bicycle system to supplement the auto-oriented street system and to meet local recreational and transportation needs.

Recommended Bypass

The recommended bypass alignment is on the near west side of Kalispell. The new four-lane road would begin at Ball's Crossing and generally follow the Burlington Northern Railroad alignment north to Foy's Lake Road, cross through the Forest Products property west of the wye in the railroad tracks, cross US 2 at-grade, then proceed north through the Two Mile and three Mile Drive area to Stillwater Road then north to Reserve and US 93. The route would be a limited access roadway, signed as an Alternate Route to US 93, with speeds ranging from 40 to 55 miles per hour. <u>**The**</u>

bypass will also include parallel detached bicycle and pedestrian paths and inter-connective facilities to other trails near the corridor.

The bypass segments north of US 2 and the segment of Reserve Drive from US 93 to US 2 (LaSalle Drive) could also serve as an alternate route for US 2.

Major Street Network Improvements

Other recommended MSN improvements that will affect future travel patterns/volumes on US 93 include:

- Widening of North Meridian Drive from Idaho Street to US 93 including curb and gutter, turn lanes and pedestrian/bicycle facilities.
- Improvements to Whitefish Stage Road between Oregon Street and Evergreen Drive to include improved geometry at curves, widened shoulders and turn lanes.
- Improvements to existing Willow Glen Drive to include widened shoulders and left-turn lanes for major intersecting streets, as well as sight distance improvements at Woodland Avenue and Conrad Drive.
- An extension of LaSalle Road south of US 2 to Conrad Drive.
- Improvements to Conrad Drive between Willow Glen and Woodland Avenue to include improved shoulders and turn lanes at Woodland Park Drive.
- New rural minor arterials and collectors including extension of Evergreen/Four Mile Drive from Whitefish Stage Road to Stillwater Road.

Also included in the transportation plan are Transportation System Management Improvement Recommendations, including:

- Intersection improvements along US 93 and US 2, including restriping, turn lanes and traffic controls.
- Segment improvements along US 93 and US 2, including median reconstruction, access control plans and restriping.
- General traffic signal system upgrade recommendations.
- Support for traffic demand management, transit and bicycle actions.

3.5.7.2 Whitefish Area

Goals and policies from the transportation component of the *Whitefish City-County Master Plan, Year 2010*, Flathead Regional Development Office, 1987, applicable to the US 93 alternatives through Whitefish are highlighted below:

Goals

- A comprehensive circulation system which serves the combined needs of the community and region while providing safe, convenient, and economical access to all facilities, retail areas and neighborhoods.
- A pedestrian transportation/access system which connects retail areas, public facilities, recreational areas, neighborhoods with a minimum of auto-truck-rail conflict.
- Parking and parking standards that encourage off-street parking and fair and equitable quotas for new areas.
- An awareness that roads and highways provide the window that many people view the community from and therefore signage, landscape and road design and location should be coordinated and tempered to provide the optimum setting for the future of Whitefish.

Policies

- When 7th Street is extended from Kalispell Avenue to Spokane Avenue, it should function as an east-west collector. At that time, excessive bus, truck and auto traffic should be discouraged from using Columbia Avenue (east of Spokane) and Columbia Avenue should revert to a local street and be signed and maintained as a local street.
- As US 93 south continues to develop, limit individual access and establish frontage roads and turn bays to reduce traffic congestion.
- Arterial and collector streets should have sidewalks at least on one side of the street to encourage and provide for pedestrian traffic. All commercial areas and multi-family neighborhoods should incorporate sidewalks.
- In order to maintain a smooth-flowing, yet economical transportation system require all developments to provide their fair share of off-street parking and remove on-street parking from arterials and collectors.

Recommendations form the *Whitefish Traffic Study*, TDH, 1992 are listed below:

Traffic Safety Management Improvements	
City Wide Intersections	Install street signs at all intersections
Baker Avenue and 3rd, 4th and 5th Streets and Central Avenue and 4th Street	Replace yield signs with stop signs.
Spokane Avenue & 3rd, 4th and 5th Streets	Restrict parking on all approaches
Baker Avenue and 2nd Street West	Install left-turn bay
Baker Avenue and US 93 South	Install left-turn bay

Major improvements	
Baker Avenue	Phase I - extend to bowling alley Phase II - extend to 18th Street West Phase II - extend to Chalet Motel Alternative I - connect Baker-Spokane to one-way couplet
Central Avenue	Bulb intersections - modify parking Alternative 1 - convert to one-way
7th Street East	Extend 7th Street East to Spokane Avenue
Baker Avenue and Columbia Avenue	Signalize intersection
Baker Avenue and 18th Street West	Signalize intersection
West of Whitefish	Construct bypass

3.6 Pedestrian and Bicycle Facilities

Presently, bicycle traffic is found along existing roads including US 93. Higher volume is found in or near the communities of Kalispell and Whitefish. Pedestrian traffic is also higher within these communities.

Current trails identified in the "Flathead Valley Bike Routes" map prepared for the Rails to Trails of Northwest Montana identifies several trails within the study corridor (Figure 3-5). In Whitefish trails follow numerous city streets including striped bike lanes along US 93 on Spokane Avenue. Kalispell also has numerous designated bike facilities. For the most part US 93 is excluded from this bike way designation but it has been included in the draft Flathead County and Pedestrian Trail Plan. In Somers, US 93 is designated as the principal touring route for bikers.

Recently, there is an effort to convert abandoned rail corridors into recreation trails. One of these corridors, from Somers north to Balls Crossing, has been identified as a potential opportunity for this conversion. North of Balls Crossing the rail line is in use but is being considered for conversion. This segment would connect with the proposed Great Northern Historical Trail which crosses through Kalispell from Woodland Park on the east through downtown to Derns Road on the west.

Bike activity appears highest along Whitefish Stage Road. This roadway is a designated bike corridor without shoulder striping or signage for this use. A hostel, located north of Reserve on Whitefish Stage Road, provides bicycle tour groups a stop-over point within the Valley. Some of these tours cross Montana and others originate in Whitefish. According to the hostel management, approximately 750 to 800 bicyclists pass through their establishment each summer.

Pedestrian activity is greatest within Whitefish and Kalispell. Downtown segments of US 93 typically have crossing walks at intersections. Pedestrian movement within these communities can be considered substantial, especially during tourist seasons. Residential segments of US 93 also have higher than normal pedestrian activity, especially near local schools. North of Kalispell, at US 93 and Reserve, pedestrian activity is greater because of the need for school children to cross US 93 at Reserve to reach their school east of US 93 near Whitefish Stage Road.

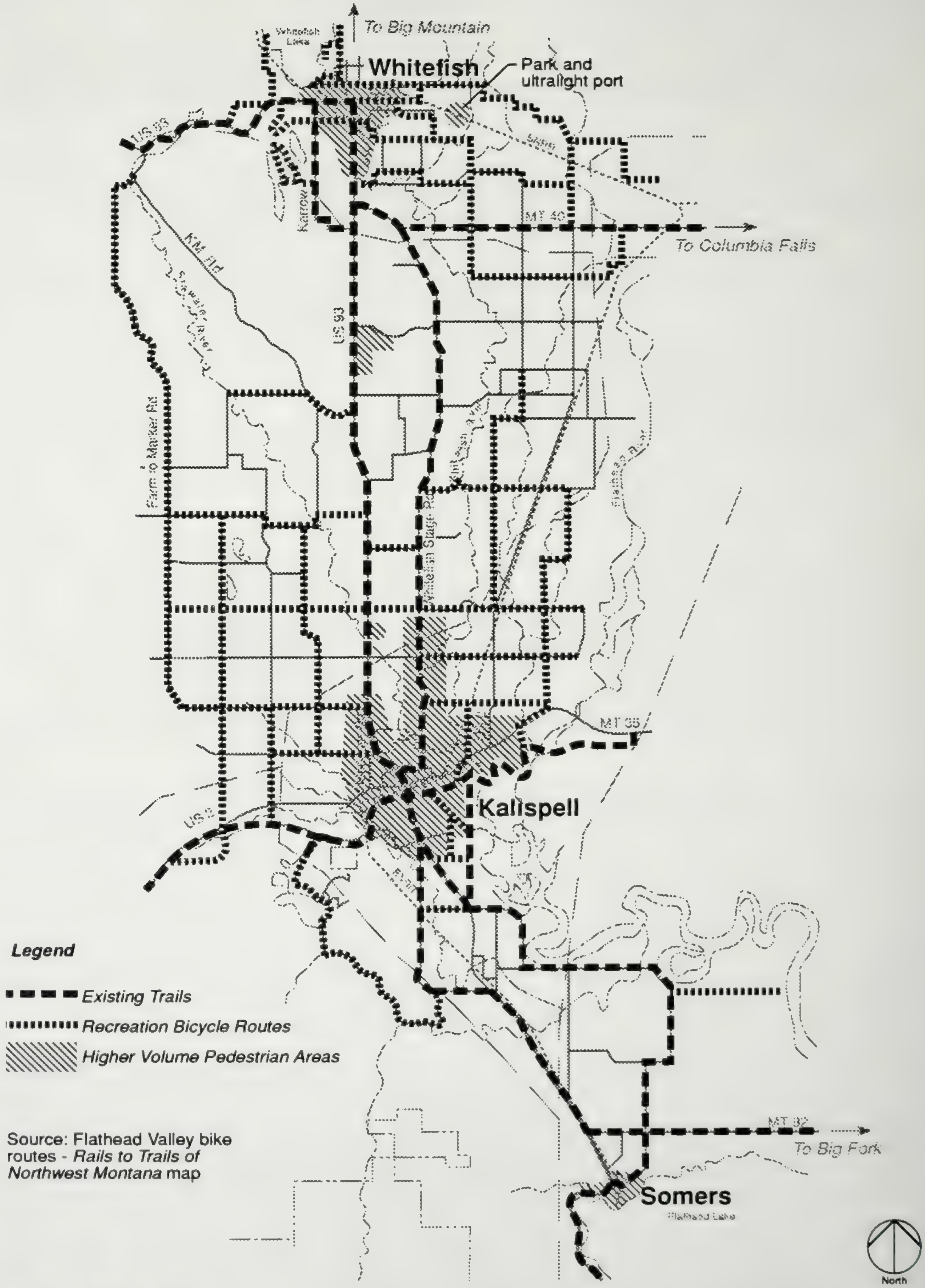


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Figure 3-5

Existing Bike and Pedestrian Facilities

3.7 Air Quality

3.7.1 Regulatory Background

This project is affected by the 1967 Clean Air Act and Amendments (1972, 1977, 1990), (42 U.S.C. 7401 et seq). Section 110 requires States to develop State Implementation Plans (SIPs) that identify how the State will attain and maintain National Ambient Air Quality Standards (NAAQS) and other Federal air quality regulations. The SIP is promulgated through the Montana Clean Air Act and implementing regulations. The regulations provide specific guidance on maintenance of air quality, including restrictions on open burning (ARM 16.8.1300). The act created the MDHES Air Quality Bureau (MDHES) and provides it regulatory authority to implement and enforce the codified regulations. Coordination with the MDHES and the EPA is required.

Section 176(c) requires "conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards; and that such activities will not (i) cause or contribute to any new violation of any standard in any area; or (ii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area." Recent EPA regulations have been promulgated which define how a transportation project needs to be in conformity with the SIP emissions.

The Environmental Protection Agency (EPA) has developed NAAQS for criteria pollutants, including ozone, carbon monoxide, sulfur oxides, lead, and particulate matter that is less than or equal to ten microns in diameter (PM_{10}). Two NAAQS exist for PM_{10}. The 24-hour standard requires concentrations of PM_{10} not to exceed an average 150 micrograms per cubic meter of air. Annual average concentrations are not to exceed 50 micrograms per cubic meter of air.

3.7.2 PM_{10} Violations

Kalispell and Whitefish have been designated by EPA as nonattainment areas for PM_{10}. A PM_{10} nonattainment area is any area which does not meet the PM_{10} NAAQS. A PM_{10} SIP for Kalispell was submitted to EPA in November 1991. It is awaiting approval by EPA. A PM_{10} SIP for Whitefish will be required to be submitted to EPA in May 1995. The nonattainment area boundaries for Kalispell and Whitefish are shown in Figure 3-6.

Violations of the PM_{10} NAAQS have been monitored in Kalispell and Whitefish. During 1992, eight concentrations in Whitefish were recorded that exceeded the 24-hour standard of 150 micrograms per cubic meter. No violations were recorded in 1992 in Kalispell. No violations have been recorded in 1993 in either Kalispell or Whitefish. Dates and levels of violations during 1992 for Whitefish are shown in Table 3-17.

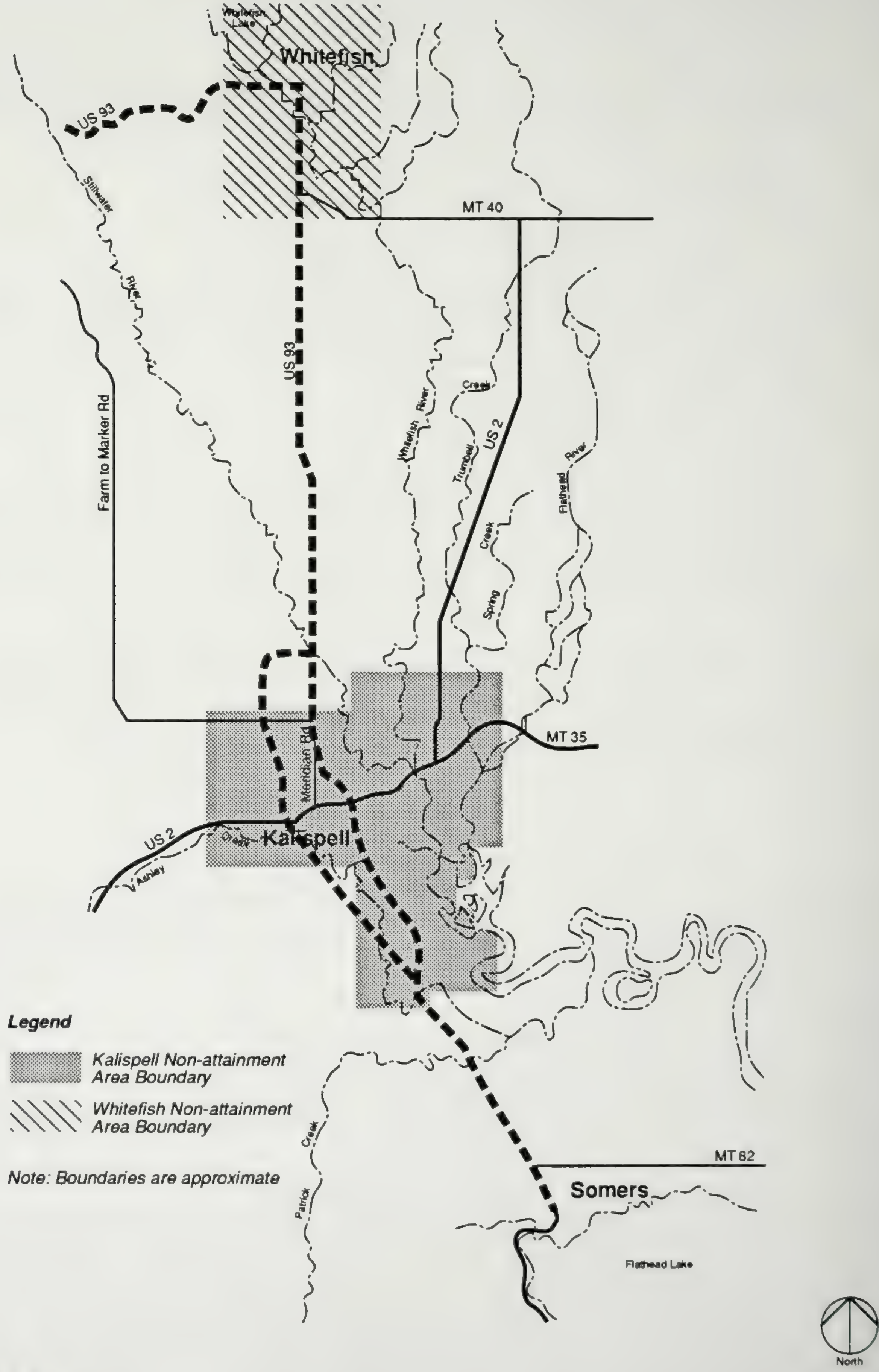

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Figure 3-6

PM_{10} Non-Attainment Areas

Table 3-17
1992 Whitefish Violations of PM_{10} 24-Hour NAAQS

Date	Micrograms per Cubic Meter
February 4, 1992	301
February 6, 1992	333
February 26, 1992	189
March 5, 1992	187
March 7, 1992	163
March 9, 1992	254
March 11, 1992	193
March 13, 1992	220

Source MDHES

Analysis of the history of PM_{10} exceedances at the Kalispell maximum concentration site (Universal Athletics on Main Street) shows:

- Annual average PM_{10} concentrations have continually decreased since 1986.
- This reduction is partly due to the use of **liquid deicer** and washed sanding material by **MDT and** the Kalispell Public Works Department.

3.7.3 PM_{10} Sources

A Chemical Mass Balance study was conducted by MDHES in Kalispell to determine the primary sources of PM_{10}. There were two Chemical Mass Balance sites in Kalispell; the Peterson School site and Universal Athletics. When considering the entire study period (9/86 - 8/87), re-entrained road dust was the predominant PM_{10} emission source during all four seasons at both sites. During the winter season, however, residential wood burning did contribute significantly.

Results of the Chemical Mass Balance study are:

1. Universal Athletics (in Kalispell CBD, adjacent to US 93)
   Study Period (9/86 - 8/87)

   Re-entrained Road Dust - 78.9%
   Residential Wood Burning - 7.8%
   Other/Unexplained 13.3%

2. Peterson School Site (residential area: west side of Kalispell)
   Study Period (9/86 - 8/87)

   Re-entrained road dust - 63.0%
   Residential Wood Burning - 15.3%
   Other/Unexplained - 21.7%

The emission inventory analysis demonstrated that area sources comprise over 90 percent of emissions in the Kalispell area. In the spring, summer and fall, re-entrained road dust is the largest PM_{10} emission source, while in the winter, residential wood burning is the largest source. The emission inventory results confirmed the findings of the CMB.

A similar analysis is being conducted in Whitefish, but is not complete. MDHES believes that re-entrained road dust and smoke produced by residential wood burning are likely the largest contributors to PM_{10} emissions in Whitefish due to similar demonstrations in Kalispell and in other PM_{10} nonattainment areas in Montana (MDHES, June 1993).

3.7.4 SIP Strategies

The Kalispell SIP includes the following control strategies related to re-entrained dust:

1. Prioritized street sweeping and flushing program.
2. Sanding and chip seal material specification.
3. Mandatory use of liquid de-icer if PM_{10} standard is exceeded after December 31, 1994.

The MDHES (June 1993) has indicated that the following control strategies are being considered for Whitefish:

1. Prioritized street sweeping and flushing program.
2. Sanding and chip seal material specification.
3. Road surface maintenance and reconstruction.
4. Traffic controls.
5. Road cleaning specifications.
6. Control of sanding materials.
7. Either mandatory or voluntary control of residential wood burning.

3.8 Noise

3.8.1 Noise Abatement Criteria

The existing land uses along the existing alignment of US-93 and the proposed alternatives are classified into two separate Federal Highway Administration (FHWA) categories for noise sensitivity. According to FHWA Noise Abatement Criteria (NAC -see Table 3-18), the residences, churches, and parks located along the existing alignment of US-93 and the proposed alternatives fall into Activity Category B and should not receive exterior noise levels greater than 67 dBA Leq. Businesses along the existing alignment of US 93 fall into Activity Category C and should not receive exterior noise levels greater than 72 dBA Leq. Refer to Table 3-18 for a complete description of the FHWA NAC.

3.8.2 Existing Monitored Noise Levels

As shown in Figure 3-7 and Table 3-19, existing exterior ambient noise measurements were taken at several locations along each of the proposed alternatives. All locations were chosen to represent sensitive receptors, which are land uses which fall into Activity Categories B and C described above. Each measurement was taken along the facade of the building which faces the road. Noise monitoring was performed during September and October 1993, during peak traffic periods. The field results are reported in Table 3-19.

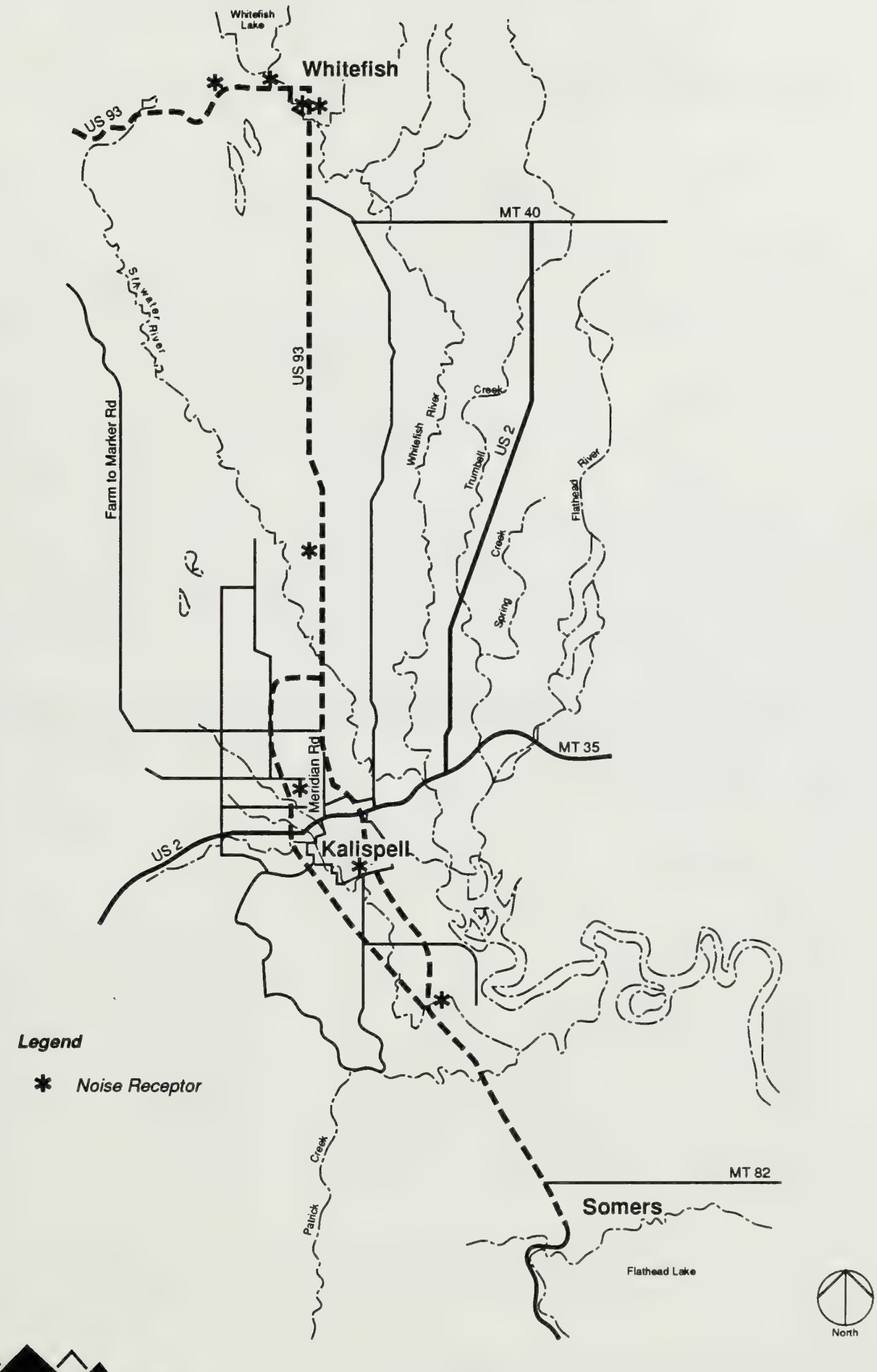

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Figure 3-7

Noise Receptor Locations

Table 3-18
FHWA Design Noise Level/Activity Relationships

Activity Category	Design Noise Levels - dBA[1] Leq (1 hr)	L10 (1 hr)	Description of Activity Category
A[2]	57 (exterior)	60 (exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, open space, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B[2]	67 (exterior)	70 (exterior)	Picnic area, recreation areas, playgrounds, active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	–	–	Undeveloped lands; no standards apply unless development planned, designed, and programmed and likely to be built, then the applicable A, B, C or D regulation applies.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

(1) Either L10 or Leq (but not both) design noise levels may be used on a project.
(2) Parks in Categories A and B include all such lands (public or private) which are actually used as parks as well as those public lands officially set aside or designated by a governmental agency as parks on the date of public knowledge of the proposed highway project.
Source: Procedures for Abatement of Highway Traffic Noise and Construction Noise. Federal-Aid Highway Program Manual Volume 7, Chapter 7, Section 3. Federal Highway Administration.

Table 3-19
Noise Monitoring Locations and Results
September and October 1993
[Distances are in Meters (Feet)]

Measurement Location	Exterior Reading dBA Leq	Noise Meter Distance to Noise Source	FHWA NAC dBA Leq
Residence: 577 Baker Avenue, Whitefish	59	12.2 (40)	67
Residence: 314 2nd Street, Whitefish	68	7.63 (25)	67
Residence: 405 Spokane Avenue, Whitefish	68	9.15 (30)	67
Residence: 2030 US-93 W., Whitefish	70	12.2 (40)	67
Residence: 3430 US-93 N., Kalispell	64	30.5 (100)	67
Residence: 3237 US-93 S., Kalispell	64	30.5 (100)	67
Residence: 1012 S. Main Street, Kalispell	67	10.68 (35)	67
Residence: 524 Two-Mile Drive, Kalispell	52	12.2 (40)	67

The existing monitored ambient noise levels were below the NAC at six locations, and were at or above the NAC at four locations. These locations tend to be residences immediately adjacent to US 93. Existing monitored noise levels represent all exterior noise sources recorded at the site, including natural and mechanical sources and human activities, whereas calculated noise levels represent traffic-generated noise only.

Figure 3-8 illustrates typical noise levels.

Indoor Sound	dBA Scale	Outdoor Sound	Reference Loudness
	140	Aircraft carrier	
		Military operations Jet aircraft	32 times as loud
	130	Large siren at 100'	
		Jet takeoff at 200'	
Rock band	120	Oxygen torch	
		Thunderstorm Elevated train	16 times as loud
Industrial plant	110	Riveting machine	
		Auto horn at 3'	8 times as loud
Circular/chain saw			
Shouting in ear	100	Back compacting trash truck	
Printing room			4 times as loud
		Heavy truck at 25'	
Power mower	90	10 hp outboard at 50'	
Food blender Auto car wash		Motorcycle at 25' Diesel train at 100'	2 times as loud
Garbage disposal	80	Small trucks at 25'	
Alarm clock			
Symphonic music		Heavy traffic at 50'	**Reference loudness to dBA**
Vacuum cleaner	70		
Dishwasher			
Electric typewriter		Average traffic at 100'	1/2 as loud
Air conditioner at 20'	60		
Typical office			1/4 as loud
Living room	50	Light traffic at 100'	
Bedroom			1/8 as loud
Library	40	Birdsong	
Broadcasting studio	30		
		Rural area	Just audible
	20		
		Rustling of leaves	
	10		
			Threshold of hearing
	0		

Figure 3-8

Typical Noise Levels

3.9 Water Resources

3.9.1 General Description

The study area contains the confluence of four major streams and their watersheds. These four watersheds, the Flathead, Whitefish, Stillwater and Ashley Creek, drain the area directly adjacent to the Continental Divide in northwestern Montana. Starting from the east the study area's waters drain the Swan Range, the west half of the Flathead and Livingston Ranges, the Whitefish Range and the Salish Mountains.

The Flathead River system is part of the western slope of the Continental Divide which eventually discharges its waters into the pacific ocean. All of the water collected in the Upper Flathead Basin, except those from the Swan River sub-basin flow through the Somers to Whitefish study area. After collecting from the Upper Flathead Basin, water flows into Flathead lake. From there it flows down the lower Flathead River which joins the Clark Fork River. This water will eventually join the waters of the Columbia River by way of the Pend d'Oreille River.

Although up in their higher reaches the Flathead and its tributaries have steeper gradients, within the study area itself the gradients are low and very flat. As a result of previous glaciation, the rivers flow down from the steep hills, cross their nick points or gradient changes abruptly at the edges of the valleys and flow slowly out on to the broad flat plain of the Flathead Valley. These streams which are at low velocity and have relatively little sediment load then meander back and forth across the valley floor. Ashley Creek, the Stillwater and Whitefish Rivers are typical of low gradient streams with moderate sinuosity. The Flathead Valley is a textbook case of a meander valley and has notable traits such as large scale braiding or multiple channels and many large oxbow lakes or sloughs.

3.9.2 Water Quality

General water quality within the Flathead Lake basin and its tributaries is generally high to very high (Flathead Basin Commission 1991-1992). This is shown on Figure 3-9. One notable exception is Ashley Creek.

A summary of the applicable water-use classifications for the State of Montana:

A-1 Classification Waters classified as A-1 are suitable for drinking, culinary or food processing purposes, after conventional treatment for the removal of naturally present impurities.

B-1 Classification Waters classified as B-1 are suitable for drinking, culinary or food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers, and agricultural and industrial water supply.

B-2 Classification Waters classified as B-2 are suitable for drinking, culinary or food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers, and agricultural and industrial water supply.

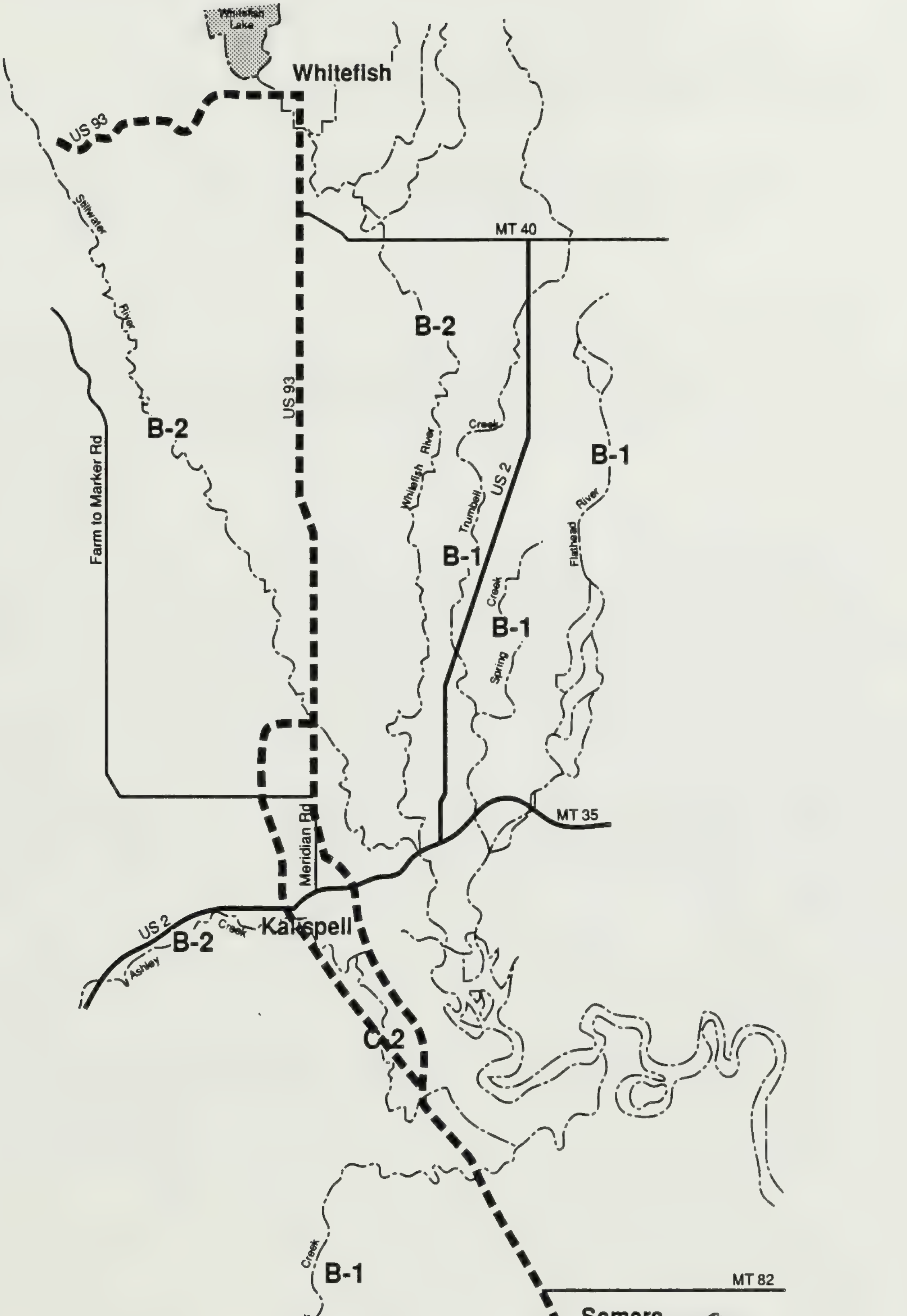

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Figure 3-9
Water Resources and Quality

C-2 Classification Waters classified as C-2 are suitable for bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

3.9.2.1 Patrick Creek

Patrick Creek flows north out of the Flathead National Forest between Wild Horse and Lion Mountains. It is relatively steep with low sinuosity for the first 10.3 kilometers (6.4 miles). As it enters the valley it flattens out abruptly and flows east under US 93 at milepost 106.7 for 7.4 kilometers (4.6 miles) at which point it flows into Ashley Creek. Patrick Creek is rated B-1 for water quality throughout its course.

3.9.2.2 Ashley Creek

Ashley Creek flows at a very shallow gradient, northeast into the study area from the Smith Valley. Its total length inside the study area is 30.57 kilometers (19 miles). It generally follows the US 2 alignment up to the urbanized area of Kalispell, at which point it skirts the southwest edges of the city and flows south parallel with US 93. At Ball's crossing the creek heads east and eventually joins the Flathead River just above Church Slough. Throughout its course below the City of Kalispell, Ashley Creek has a very low gradient and is tortuously meandering. As mentioned above, Ashley Creek continues to be the exception to the study area's high water quality. This is mostly due to the release of public waste water effluent from the City of Kalispell. The creek has had a history of extremely high phosphorous counts and nutrient concentrations. Continuing upgrades at the Kalispell water treatment facilities have made great progress in controlling these factors but Ashley Creek remains as the lowest water quality in the study area (Flathead Basin Commission 1991-1992 Biennial Report). It is reported as a class B-2 stream from Smith Lake to the bridge crossing on Airport Road about 0.61 kilometer (one mile) south of Kalispell. From the bridge crossing to the Flathead River it is classified as C-2.

3.9.2.3 Stillwater River

The Stillwater river flows southeast into the study area from the Stillwater State Forest. Entering the study area at Lodgepole and Twin Bridges Road, it runs at a very low gradient, less than one percent for 33.79 kilometers (21 miles). The river crosses below US 93 at mile point 116, just north of Reserve Dr. It then flows through the northeastern quadrant of Kalispell passing through some aggregate and gravel extraction operations. It flows under US 2 at a point north of Willow Glen Dr. and then joins the braided Flathead River complex due east of the city. The Stillwater River between these points is classified as a B-2 stream.

3.9.2.4 Whitefish River

The Whitefish River flows from Whitefish Lake just north of the town of Whitefish, due south, approximately parallel to US 93, eventually ending in the Flathead River. It is approximately 30.57 kilometers (19 miles) in length within the study area. The river flows at a low gradient through its entire course. It is joined by Haskell Creek and Walker Creek before passing under MT 40 2.9 kilometers (1.8 miles) from the junction of US 93 and MT 40. The Whitefish flows south until it joins the Stillwater just before crossing under US 2. They flow for a

short distance together before entering the Flathead. The Whitefish is rated as B-2 water between Whitefish Lake and the Flathead River.

3.9.2.5 Trumbull and Spring Creeks

Trumbull and Spring Creeks are minor low gradient tributary streams that run north south parallel and between the Whitefish and Flathead Rivers. They join and flow under US 2 at a point east of the Whitefish crossing, after which they flow into the Flathead. These streams are classified as B-1.

3.9.2.6 Flathead River

The Flathead River is the major source waters for Flathead Lake. The river flows south from the town of Columbia Falls, trending south southwest until nearing the City of Kalispell It then meanders to the east then south into Flathead lake between the towns of Somers and Bigfork. The Flathead has an extremely low gradient throughout its valley bottom course. It flows south and crosses under US 2 approximately 5.63 kilometers (3.5 miles) east of the City of Kalispell. The Flathead is classified as an B-1 stream which is congruent with the quality of its fisheries.

3.9.2.7 Flathead Lake

Flathead Lake is located in the extreme southern portion of the study area. Although only a small portion of the lake is included in the study area, it is important because of its downstream location. It receives all of the water passing through the study area. Flathead Lake is approximately 117.73 meters (386 feet) deep at its lowest point and has an average of 222 kilometers (138 miles) of shoreline.

Generally the water quality in Flathead Lake remains high although there are some considerable problems with nutrient loading. The lake is maintaining nutrient levels near the critical threshold, at which water quality may possibly deteriorate suddenly in the form of algal blooms. The nutrient / primary production (growth of algae) problem is a long term problem related to polluted precipitation falling on the lake. It is thought that other contributors to the nutrient enrichment problem in Flathead Lake are non-point sources, such as runoff and groundwater pollution, and point sources. Although it is not immediate, it is clear that in the long term the water quality of Flathead Lake is declining. Flathead Lake is classified as A-1.

3.10 Wetlands

Wetlands are unique communities that possess three essential characteristics: hydrophytic vegetation, hydric soils and wetland hydrology. Hydrology is the most important characteristic determining wetland location and longevity (Stednick, 1988).

Wetlands are generally considered important because of their many beneficial functions, including recharging ground water, controlling floods, improving water quality via sediment control and excess nutrient removal, providing wildlife habitat and enhancing aesthetic/scenic values.

Wetlands are protected by Section 404 of the Clean Water Act and by Executive Order 11990. Coordination is required with the EPA, USFWS, USCOE and MDFWP.

Field surveys conducted during 1993 located a total of 28 wetlands in the project area. Of this total, 16 wetlands occur along US 93 and 9 occur along the Kalispell Bypass. Three wetlands occur in Whitefish. Figure 3-10 shows the distribution of the 28 wetlands along US 93, Alternative B and Baker Avenue. Figure 3-11 includes photographs of some of the wetlands.

Wetlands in the project area were initially identified from aerial photographs and the US Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) maps encompassing the project area. All wetlands identified from these photographs and NWI maps were then classified using USFWS's Wetland Classification System (Cowardin et al. 1979). Subsequently (during July 1993) wetlands along each of the US 93 corridor and the Whitefish Alternative route and Kalispell bypass were delineated using the MDT's guidelines for evaluating wetlands (MDT 1991). Wetlands were delineated by the MDT guidelines to provide a basis for comparison of wetlands impacts by alternative. Delineation of wetlands using the 1987 USCOE manual will be done for the Preferred Alternative as part of the requirements for a Section 404 permit.

There are additional wetlands in the general area that are not immediately adjacent to US 93, the bypass corridor or Baker Avenue. These are generally associated with the various rivers or streams in the study area.

The areal extent of the 28 wetlands was determined and each wetland was classified using systems developed by the Montana Department of Transportation (MDT) and US Fish and Wildlife Service (Cowardin et al. 1979). Wetlands range in size from less than 0.08 to 13.77 hectares (0.2 acres to 34 acres). Table 3-20 summarizes the areal extent and classifications of all 28 wetlands.

Wetlands present in the project area are typical of those found in western Montana. About two-thirds of the wetlands have permanent water and are characterized by erect, rooted, herbaceous plants specifically adapted to growing in water. These wetlands often adjoin a pond or small lake. The cattail marsh is a primary example of this type of wetland. Wetlands of this type attract a wide variety of wildlife, including waterbirds, small mammals, furbearers, and songbirds.

About one-third of the wetlands in the project area are riverine or have a riverine component to them. These wetlands are in or immediately adjoin rivers or creeks. Thus, they are specifically restricted to stream channels. Common species associated with these wetlands include duckweed, lilies, sedges, and horsetail. Locations for these wetlands within the project area include the Stillwater River, Whitefish River, and Ashley Creek. Riverine wetlands typically have a higher value to fish than the other wetlands present in the area.

Finally, some of the wetlands in the project have a forested or scrub-shrub component associated with them. These wetlands are characterized by the presence of shrubs and trees. Species commonly associated with these wetlands include willows, maples, dogwood, hawthorn, Colorado blue spruce, and aspen. Locations for these wetlands within the project area include the Stillwater River, Whitefish River, and Ashley Creek. These wetlands have a high value to wildlife, especially to birds and large mammals, because of the variety of habitats and escape cover they offer.

In addition to classifying wetlands, the MDT method includes an evaluation of functional values for each wetland as well as an overall ranking. Table 3-20 summarizes the functions and values determined in the field. It also presents the overall ranking value for the 28 wetlands. All 28 wetlands provide potential flood storage, do not receive heavy sediment loads, and provide moderate to high support of the food chain. Also, most of the wetlands provide little habitat for fisheries and experience at least some use by various species of wildlife.

Wetland location #4

Wetland location #14

Wetland location #19

Wetland location #21

Note: The photo numbers correspond to Figure 3-10 Wetland Locations

Figure 3-11

Photographs of Study Area Wetlands

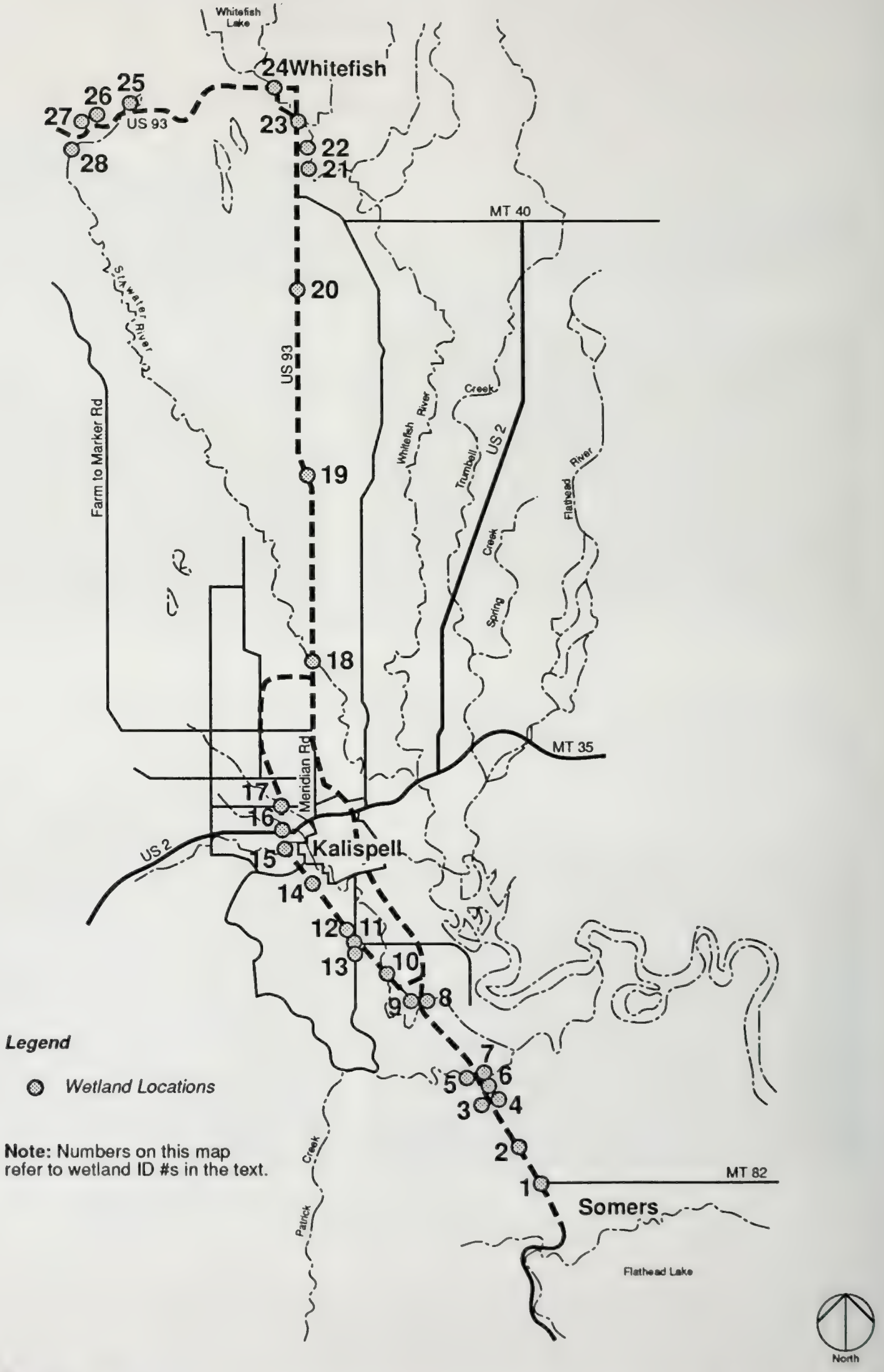

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Figure 3-10
Wetland Locations

Overall functional values for the 28 wetlands range from 8.5 to 15.5. The mean overall functional value was 12.5. The overall functional values place most of the wetlands in the moderate category for wetland values.

Table 3-20
Summary of Wetlands Present Along US 93, the Kalispell Bypass Corridor, or Baker Avenue

Wet-land ID	Total Area Hectares (acres)	Area Within Corridor-Hectares (acres)	Portion of Wetland in Corridor (%)	MDT Classification 2,3	NWI Classification 2,3
1.	0.06(0.16)	0.04(0.11)	70	I D	PABF
2.	0.12(0.29)	0.09(0.22)	77	I D	PABFx
3.	2.36(5.83)	0.15(0.37)	6	I D/C 75/25	PEMF, PEMC, PABF
4.	1.77(4.36)	0.2(0.5)	12	I D	PEMF
5.	9.72(24.01)	0.97(2.42)	10	I D	FEMC
6.	0.14(0.35)	0.14(0.35)	100	I D	PEMC
7.	5.81(14.34)	0.32(0.80)	6	I D	PEMC, PFOA, PSSA
8.	5.73(14.14)	0.77(1.91)	14	I D/B/C 85/10/5	R4SBF, PABF
9.	6.97(17.2)	0.82(2.02)	12	III A/B/C 40/40/20	R4SBF
10.	8.84(21.83)	0.96(2.37)	11	II A/B 70/30	R4SBF
11.	0.82(2.02)	0.82(2.02)	100	I D	PEMCx
12.	1.3(3.2)	0.05(0.12)	4	I D	PEMCx
13.	13.69(33.8)	0.82(2.02)	6	II A	PEMC, PUSA, PUSC
14.	2.5(6.17)	1.39(3.44)	56	II A	PEMC
15.	6.34(15.66)	0.34(0.83)	5	II A/B/C 40/40/20	R4SBF, PEMC
16.	1.34(3.32)	0.07(0.18)	5	I D, III A/B/C 40/30/30	PEMC
17.	2.16(5.34)	0.03(0.08)	1	III A/B/C 60/20/20	PEMC
18.	3.24(8.0)	0.47(1.17)	15	III A/B/C 60/20/20	R3UBH
19.	6.08(15.0)	0.27(0.67)	4	II A/B 80/20	PEMC, PSSC
20.	0.88(2.17)	0.33(0.81)	37	I D, II A/B 70/30	PEMC
21.	3.10(7.65)	0.47(1.16)	15	III A/B/C 20/75/5	R3UBH
22.	4.82(11.9)	0.55(1.36)	11	I D, III A/B/C 20/30/50	PSSA, R3USC, R3UBH
23.	5.38(13.28)	0.40(0.99)	7	I B/D 10/90, III A/B/C 20/70/10	R3UBH
24	3.3(8.15)	0.37(0.91)	11	III A, B, C	R3UBH
25.	30.45(75.19)	0.40(0.99)	1	I D, II A, B	PEMC
26.	0.06(0.16)	0.06(0.15)	91	II A, B	PEMC
27.	0.86(2.12)	0.36(0.88)	42	II A, B	PEMC, PSSC
28.	31.02(76.59)	1.49(3.67)	5	I B, D, II A, B, C	PEMC, PEMF, LIUBH

1. *The corridor's width was 30.5 meters (100 ft.) on either side of roadway. The corridor is an arbitrary boundary for wetland delineation purposes, it does not correspond to right-of-way width.*

2. *Keys to the MDT and US Fish and Wildlife Service classification systems are included in Appendix B.*

3. *Species of plants identified in the wetlands are listed in Appendix B.*

Table 3-21
Summary of Functional Values and Overall Ranking for Wetlands Present Along US 93, the Kalispell Bypass, and Baker Avenue

Wetland ID	Flood Storage	Sedi-ment Control	Nutrient Reten-tion	Food Chain	Wildlife Habitat (Highest)(1)	Wildlife Habitat (Lowest)(1)	Fisheries Habitat (Highest)(1)	Fisheries Habitat (Lowest)(1)	Overall Ranking (out of 24)(2)
1	3	1	2.5	2	1	0	0	0	9.5
2	3	1	3	3	2	0	0	0	12
3	3	2	3	3	3	0	1	0	15
4	2	2	3	3	3	0	0	0	13
5	2	2	2	3	3	0	0	0	12
6	2	2	2.5	2	0	0	0	0	8.5
7	2	2	3	3	3	0	0	0	13
8	3	2	1	2	2	0	2	0	12
9	3	2	2.5	3	2	0	2	0	14.5
10	3	1	2.5	3	2	0	0	0	11.5
11	3	2	2.5	3	2	0	0	0	12.5
12	3	2	2.5	3	2	0	0	0	12.5
13	3	1	1	3	2	0	0	0	10
14	3	1	2.5	3	2	0	0	0	11.5
15	3	2	1	2	2	0	2	0	12
16	3	2	2.5	3	2	0	0	0	12.5
17	3	1	2.5	3	2	0	1	0	12.5
18	3	2	2.5	3	2	0	2	0	14.5
19	3	1	2.5	3	1	0	0	0	10.5
20	3	2	2	3	2	0	0	0	12
21	2	1	3	3	2	0	3	0	14
22	3	2	3	3	2	0	2	0	15
23	3	2	2.5	3	2	0	3	0	15.5
24	3	2	3	3	2	1	2	1	17
25	3	2	3	3	2	1	2	0	16
26	2	2	3	3	2	1	1	0	14
27	2	2	3	3	2	1	1	0	14
28	3	2	3	3	3	1	2	0	17

(1) The evaluation considers several groups of wildlife and fisheries independently (e.g., raptors, large ungulates, trout, other salmonids, and threatened or endangered species). Values reported in these columns are for the group with the highest value and the group with the lowest value.

(2) A summary of the wetland functional assessment parameters is included in Appendix B.

3.11 Fisheries and Wildlife

3.11.1 Wildlife

The wildlife resource present in and along the US 93 corridor reflects the intermountain valley type of life zone. However, much of the area has been disturbed by human development. Habitats vary from urban areas to small riparian wetlands and large expanses of agricultural lands.

The wildlife resource occurring in the US 93 corridor is predominantly upland in character. However, all the major wildlife groups are represented (Table 3-22). Although semi-aquatic wildlife species are generally uncommon, they may be locally abundant where suitable habitat occurs.

Regionally, several groups of wildlife are of primary concern to the public and resource management agencies. They are game animals; raptors; and threatened, endangered and sensitive species. Specific species include white-tailed deer, elk, moose, osprey, upland game birds, and waterfowl. Threatened, endangered and other sensitive species are addressed in Section 3.14 - Threatened and Endangered Species.

In addition to groups of wildlife, specific issues related to the proposed project are of concern to both the public and resource management agencies. These are reducing wildlife hazards along the highway, minimizing the effects of the project on nearby wildlife refuges, and minimizing the disruption of big game migrational patterns.

White-tailed deer is the most common big game species present in and along the US 93 corridor. The corridor crosses both summer and winter range. Although fawning is thought to occur near the corridor, no specific sites have been designated by MDFWP.

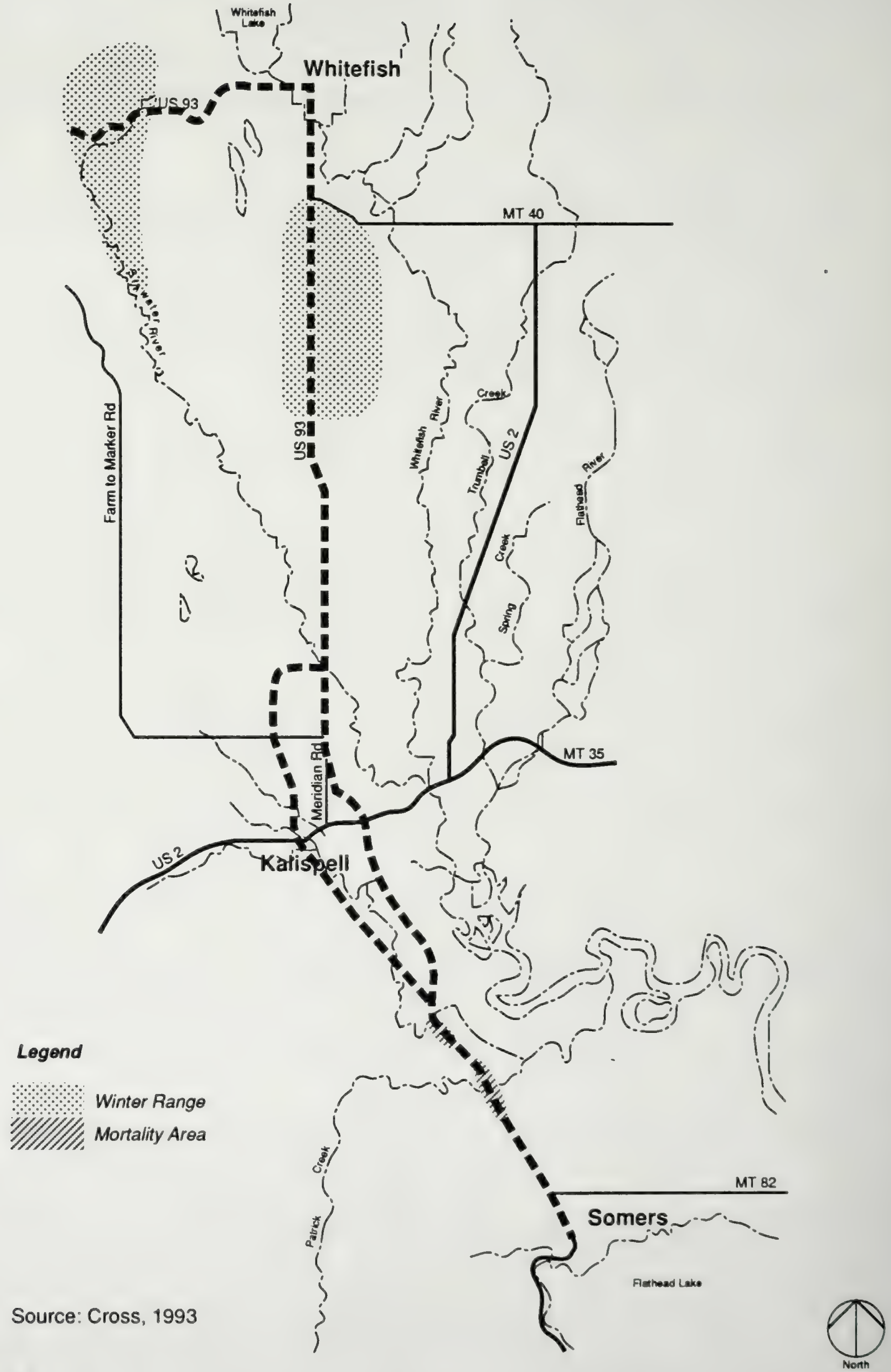
Some portions of the area are utilized for seasonal movements. However, no specific routes have been documented (Cross 1993). Although, there are several areas of common occurrence along the existing US 93 corridor. These occur from approximately 3.2 kilometers (two miles) north of Somers to 1.61 kilometer (one mile) south of Kalispell. In addition, the area near the landfill between Somers and Kalispell receives increased deer activity during the winter months (Figure 3-12).

In addition to white-tailed deer, observations of elk, mule deer, and moose within the corridor have been recorded. The observations indicate the occurrence of these species in or along the corridor is occasional in nature. The highly developed condition of the corridor probably limits use of the corridor for these species.

Several species of upland game birds have been documented as occurring in or along the US 93 corridor in areas of suitable habitat. They include turkeys, Hungarian partridges, and ring-necked pheasants.

Table 3-22
Summary of Wildlife Resource Characteristics

Wildlife Group	Common Representative	Common Vegetation Associations	Comments
Large Mammals	White-tailed deer Elk Moose	Coniferous Forest Deciduous Woodland Riparian Agricultural	Species densities and composition varies seasonally
Small Mammals	Deer Mouse Skunk Raccoon Weasel	Deciduous Woodland Coniferous Forest Riparian Urban Agricultural	Species composition diverse and all vegetation types occupied
Furbearers	Coyote Beaver Muskrat	Deciduous Woodland Coniferous Forest Riparian Urban Agricultural	Except for muskrat and beaver, members of this group tend to posses large home ranges
Waterfowl	Canada Goose Redheads Wood duck Shoveler Bufflehead	Riparian Wetland Aquatic	Most representatives of this group occur as migrants within the study area.
Upland Game birds	Turkeys Ring-necked Pheasant Hungarian Partridge	Agricultural Riparian Coniferous Forest	Typically year-round residents possessing some economic significance
Raptors	Osprey Red-tailed Hawk American Kestrel Swainson's Hawk	Riparian Deciduous Woodland Agricultural	Members of this group tend to hunt large territories



Source: Cross, 1993

Figure 3-12

White-tailed Deer Winter Range & Mortality Areas

Table 3-22
(continued)

Wildlife Group	Common Representative	Common Vegetation Associations	Comments
Songbirds/passerine	Yellow Warbler Vesper Sparrow Meadowlark Eastern Kingbird Black-billed Magpie	Riparian Deciduous Woodland Coniferous Forest Agricultural Urban Wetland	Species composition diverse, all vegetation types occupied, and species mixture changes seasonally
Reptiles and Amphibians	Common Garter Snake Bull Snake Painted Turtle Leopard Frog	Agricultural Riparian Wetland Urban Deciduous Woodland	Locally abundant in suitable habitats

Sources: Cross 1993, Skaar et al. 1985, and Stebbins 1966

Raptors inhabiting or potentially inhabiting the US 93 corridor include the red-tailed hawk, great-horned owl, American kestrel, rough-legged hawk, Swainson's hawk, osprey, bald eagle, and peregrine falcon. These species may occur in areas of suitable habitat within or along the corridor. Potentially suitable nesting habitat, occurs in or near portions of the corridor, particularly along the Flathead River. However, no raptor nests are known to occur in the study area **[which is defined as generally within 152.5 meters (500 feet) either side of US 93]. The occurrence of raptor nests in the study area was determined through interviews with state and federal wildlife officials and a literature search.** Both the bald eagle and peregrine falcon are classified as Endangered species, and are discussed in Section 3.14 - Threatened and Endangered Species (Harms 1993).

3.11.2 Fisheries

A coldwater fishery exists within the general US 93 corridor. However, the area only receives a minor amount of fishing pressure (Hanzel 1993). The most extensive aquatic habitat within the area is the Flathead River. The Flathead is the major migratory route upstream from Flathead Lake. The most common fish species within the river are lake trout, northern pike, bull trout, westslope cutthroat trout, and rainbow trout.

In addition to the Flathead River, the corridor crosses the Stillwater and Whitefish rivers. Both rivers are generally low gradient streams occurring within glacial till. In addition, both rivers have their headwaters in lakes so they do not exhibit the annual high-flows typically associated with mountain streams. Also, due to the amount of development in the area the banks are some what degraded (Hanzel 1993).

Use of the Stillwater and Whitefish rivers by fish is limited. The high amount of sediment present in both rivers restricts the occurrence of fish in the rivers. The primary use of both rivers by fish is as migration corridors (Hanzel 1993).

3.11.3 Wildlife Habitat

3.11.3.1 Agricultural Areas

The most extensive habitat type within or along the US 93 corridor is agricultural. Agricultural areas typically include those areas used for both cash crops and as pasture land. Wheat makes up the majority of the cash crop grown along the corridor. Other crops include barley, oats, rye, and hay. Plant species associated with pasture

land are Dutch clover, alsike clover, timothy, fescue, Kentucky and Canadian bluegrass, and quackgrass (Nunns 1960). Typically, wildlife species utilize these areas for hunting and foraging. Species that may be found in agricultural areas include red-tailed hawk, various small mammals, white-tailed deer, coyote, and northern harrier.

3.11.3.2 Riparian Areas

Riparian areas within or along the US 93 corridor are typically restricted to habitats adjacent to wetlands particularly along the Flathead River, Stillwater River, Ashley Creek, and the Whitefish River. Species of plants typically present in these areas are cottonwoods, willows, alders, and dogwood. The understory is generally composed of numerous forbs and grasses. Riparian areas are important as security areas and travel corridors for wildlife. Wildlife species commonly associated with these areas are ring-necked pheasants, various songbirds, and small mammals, osprey, raccoons, and white-tailed deer.

3.11.3.3 Deciduous Woodlands

Deciduous woodlands occur in both upland and riparian type habitats. Species associated with the riparian deciduous habitats are similar to the previously described riparian habitat. Upland areas support species such as aspen, larch, and occasionally cottonwood. The understory is comprised of numerous forbs and grasses, as well as shrubs. These woodlands support wildlife species such as songbirds, great-horned owl, coyotes, ring-necked pheasant, wild turkey, white-tailed deer, and raccoons. This habitat type is not common within or along the corridor. However, it is important to the local wildlife resource.

3.11.3.4 Coniferous Forest

Coniferous forest habitats are scattered throughout the general US 93 corridor. Species commonly associated with these areas are white-spruce, Douglas-fir, and lodgepole pine. Associated species in these areas include an understory of grasses and forbs, in addition to a shrub layer on various sites. Coniferous forest is important for the local wildlife. Species such as elk, white-tailed deer, various songbirds, small mammals, and turkeys utilize these areas. This habitat type is not common within or along the corridor.

3.11.3.5 Urban Areas

The majority of urban habitat occurs within the cities of Somers, Kalispell, and Whitefish. These areas are predominantly private businesses and residential property.

Vegetation within these areas is typically limited to weedy species and planted exotic species. Wildlife associated with these areas is limited to species adapted to high amounts of human disturbance. Species would typically include deer mice, skunks, various other small mammals, numerous songbirds, and raccoons.

3.12 Floodplains

Floodplains are protected by Executive Order 11988.

The mapping of 100-year floodplains has been derived from sections of the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM). **During the preliminary and final design process, floodplains for minor drainages that have not been delineated by FEMA will be addressed**. Figure 3-13 shows the extent of flooding that would occur in the case of such an event.

Floodplains for the smaller tributaries are restricted closely to the permanent stream channel. Most of these restricted floodplains extend less than 500 feet on either side of the flow centerline.

The Flathead River floodplain is significantly more complex. Due to the extremely low gradient, the 100 year floodplain extends from the stream centerline or centerlines out to the edges of the meander loops and sloughs. At its widest, it is approximately 8.05 kilometers (five miles) wide. This type of expansive floodplain relative to channel surface area is common among highly sinuous streams such as the Flathead River.

Table 3-23 summarizes areas where US 93 crosses or abuts the 100 year floodplain.

Table 3-23
Floodplain Locations Adjacent to US 93

Reference Number	Water Feature	Location	Width At Crossing
1	Not Named	US 93 at MT 82	Adjacent to BNR
2	Not Named	US 93 0.4 kilometer (0.25 mile) S. of Somers Stage Rd.	Adjacent to BNR
3	Not Named	US 93 0.8 kilometer (0.5 mile) S. of Forest Hill Rd.	61m (200')
4	Patrick Creek	US 93 at Fir Terrace Rd.	274.5m (900') into culvert
5	Ashley Creek	US 93 at Ball's Crossing	45.8m (150')
6	Ashley Creek (S)	BNRR at Ashley Creek	30.5m (100') into culvert
7	Ashley Creek (N)	South of US 2 at Meridian	18.3m (60')
8	Stillwater River	U. S. 93 and Reserve Dr.	61m (200')
9	Whitefish River	US 93 and Riverside Dr.	45.8m (150') into culverts
10	Whitefish River	Baker Ave.	36.6m (120')
11	Whitefish River	US 93 at Miles Ave.	45.8m (150')
12	Spencer Lake	Spencer Lake	Adjacent

There are no locations along the existing US 93 alignment that are subject to road surface flooding during a 100 year event.

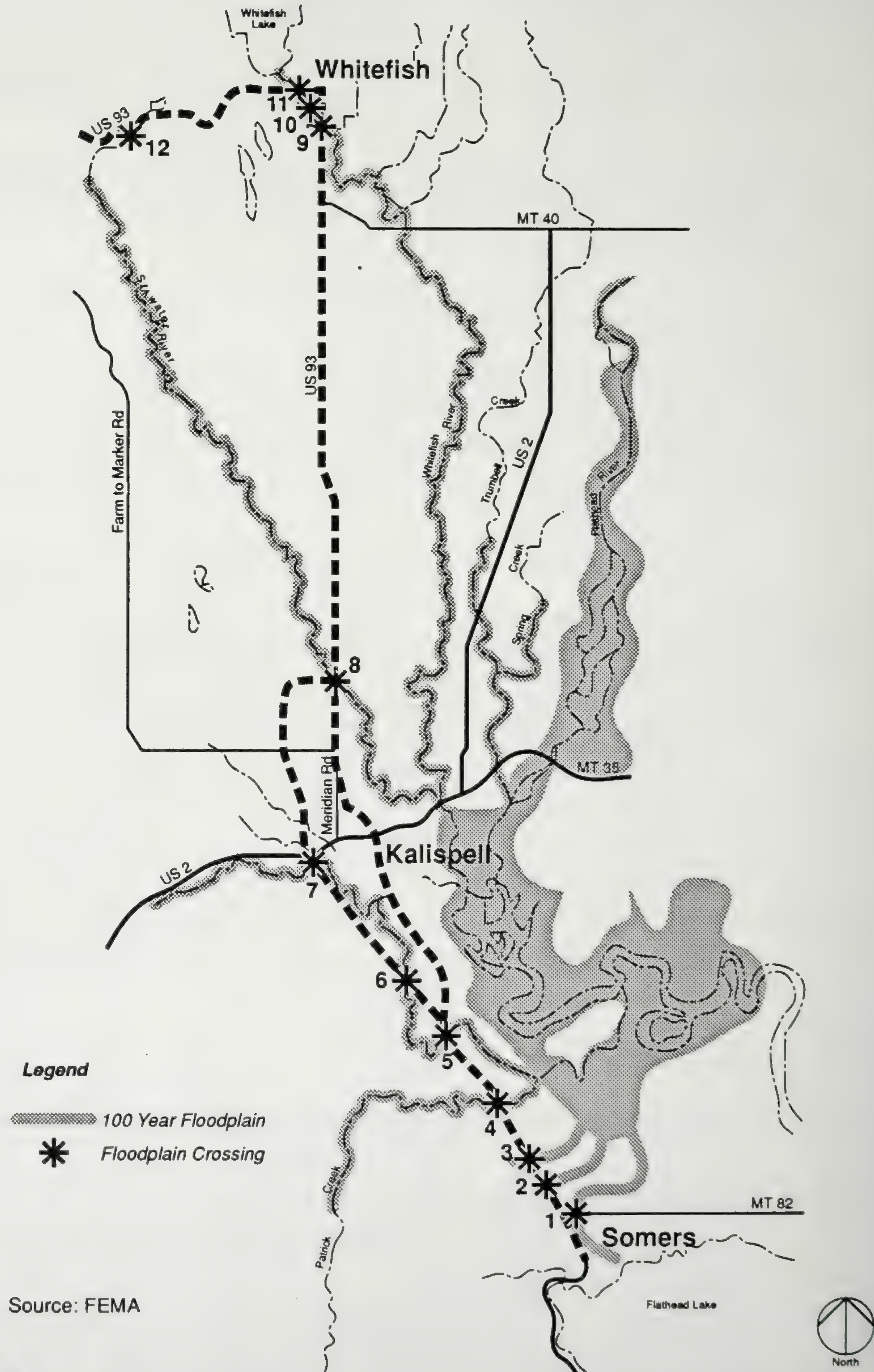
3.13 Wild and Scenic Rivers

There are no Wild and Scenic Rivers designated within the Somers to Whitefish study area.

3.14 Threatened and Endangered Species

Threatened and endangered species are protected by the Endangered Species Act. Coordination with the USFWS is required.

Through consultation with the US Fish and Wildlife Service it was determined that two federally-listed species potentially occur in the project area. They are the bald eagle and the peregrine falcon. A copy of the USFWS letter identifying these species (June 7, 1993) is included in **the Draft EIS**. In addition, nine sensitive species



Somers to Whitefish
Environmental Impact Statement

Figure 3-13
Floodplains

may occur in the project area. This section presents the abundance, distribution, and ecology of the species considered in this evaluation. The descriptions focus on aspects of these parameters that the proposed project could influence. Information presented here is primarily based on a review of literature conducted specifically for the project.

3.14.1 Bald Eagle

3.14.1.1 Habitat

Bald eagles occur throughout the western United States and Canada. Within their overall range, specific features influence their distribution and occurrence. These features include populations of prey, and sites for nests, perches, and roosts [Mountain Bald Eagle Working Group (MBEWG) 1986].

Eagles feed on a variety of items. Primary prey consists of waterfowl, salmonids, suckers, and whitefish. However, they will feed on carrion and small mammals including jackrabbits, under certain conditions (MBEWG 1986).

Nests are an important aspect of bald eagle distribution. Nests are generally located in forest stands larger than 1.21 hectares (three acres) with a moderately open canopy. Nest trees are usually the tallest ones within the stand and are predominantly live ponderosa pine, Douglas-fir, or cottonwood. However, snags of these species also may be used (Magaddino 1989). Nests are generally located in line of sight, and within one mile of bodies of water that are at least 32.4 hectares (80 acres) in size. Territories and nests are usually used repeatedly and some reportedly have been used for over eighty years (Magaddino 1989).

Nesting dates in Montana vary with location, however they follow a general pattern. Nest building, courtship, and egg-laying begins in early February and lasts until mid-May. Incubation occurs from the first of March through the end of April. It is during egg-laying and incubation that the nest are most vulnerable to disturbance. Human disturbances during this time may result in birds leaving the nest and allowing eggs to cool, or deserting the nest entirely. After the eggs have hatched, adult eagles show more affinity to the nests and are less likely to abandon the area. Hatching and rearing of the young occurs from the first of May to mid-August. Fledgling generally runs from mid-June through mid-August. After this time, human activity near the nest is less critical (MBEWG 1986).

Winter habitat in Montana, while not as critical as nesting, is a concern. Wintering habitat consists of perching and roosting sites. These sites are generally located near open water or in areas where carrion is available (i.e.; big game winter range). These areas are not as sensitive to human disturbance as nest sites however, removal of perching or roosting sites or continual disturbance in these areas may result in abandonment.

Like nests, roost and perch sites may be used over many years. They usually consist of large trees that have horizontal branches. Perches provide good views or are near feeding areas. Perch sites may be occupied by individuals or by several eagles. Roosts generally provide thermal protection and are close to feeding areas. Roosts may contain from one to several hundred eagles.

3.14.1.2 Distribution and Use of the Project Area

In order to delist the bald eagle, management objectives throughout Montana are to provide secure nesting habitat for bald eagles and to increase population levels in specific geographical areas. For wintering eagles, the plan calls for providing optimal conditions to maintain numbers of eagles over the winter (MBEWG 1986).

The majority of bald eagle usage in the project area is limited to Flathead Lake and the Flathead River. Three nests are located on the Flathead River within the project area. However, none of the river population nests are located along the existing US 93 corridor. The closest river nest is located approximately 2.4 kilometers (1.5 miles) from the existing US 93 corridor. This nest is nearest the existing US 93 corridor within the project area.

The northern-most nest on the Flathead River within the project area has been active since 1985 and has produced 1.5 young per year. The western most nest on the river within the project area has been active since 1990 and has produced two young per year. A third nest within the project area and along the river is located approximately 9.65 kilometers (six miles) east of the existing US 93 corridor. The foraging areas for both nests are generally restricted to the mainstem of the Flathead River.

There are 11 bald eagle pairs known to nest on Flathead Lake (McMaster 1993). However, only two of these nests are in close proximity to the project area. These nests are located in Kalispell Bay (Cross 1993). The closest of the lake nests is located approximately 4.02 kilometers (2.5 miles) from the existing US 93 corridor within the project area. This nest is the second closest to the existing US 93 corridor within the project area.

A nest not associated with the Flathead population is located on Whitefish Lake. This nest is in the northwest corner of Whitefish Lake. This nest site is located approximately 9.65 kilometers (six miles) from the present US 93 corridor (McMaster 1993).

Wintering bald eagles also occur in the area. During the winter of 1985-86 approximately 400 eagles utilized the river during the salmon migration. However, since the salmon have stopped migrating the numbers of eagles has decreased. In addition, no perch or roosting areas have been designated within the existing US 93 corridor (Shelley 1993).

The Flathead River and Lake are considered year-round bald eagle habitat. The entire area may be used for either nesting, or as foraging and roosting habitat for migrants and non-breeders (Shelley 1993).

3.14.2 Peregrine Falcon

3.14.2.1 Habitat

Peregrines occupy a wide variety of habitats. They are typically associated with open country near rivers, marshes, and coasts. Cliffs are the preferred nesting substrate, however, tall man-made structures (i.e.: high rise buildings and towers) may be used (Spahr et al 1991).

Breeding begins in March when males establish territories. Three to four eggs are laid in mid-April. Incubation lasts from 33 to 34 days. The young hatch in mid-May. Young generally fledged in 6 weeks and remain dependent on the adults for several weeks (Spahr et al 1991).

Peregrines typically prey on birds such as waterfowl, shorebirds, grouse, and pigeons. Prey is taken by striking from above after a high speed dive. Foraging occurs within 16.1 kilometers (ten miles) of the nest, however, 80% occurs within a 1.61-kilometer (one-mile) radius of the nest (Spahr et al 1991).

Peregrine falcons usually migrate to Mexico or Central America in the fall. However, some birds may stay on their breeding grounds year-round if food supplies are available (Spahr et al 1991).

3.14.2.2 Distribution and Use of the Project Area

All known peregrine nesting sites occur south of the project area. However, some foraging may occur in the general project area, although this is limited to seasonal migrants (Shelley 1993).

3.14.3 Sensitive Species

Sensitive species have been identified by the Montana Natural Heritage Program. Sensitive species are ranked based on their rarity or vulnerability to extinction.

Nine sensitive plant species have been documented **(through interviews with federal and state wildlife officials, literature search and data base search)** to occur in the general project area. These species are the Columbia water-meal, Guadalupe water-nymph, small yellow lady's slipper, spurred gentian, water bulrush, watershield, pygmy water-lily, ivory sedge, and western witchgrass (Craig 1993). Only **one (western witchgrass) occurs** within the proposed corridor**, west of Whitefish near Spencer Lake.**

Also, one sensitive bird species occurs in the general project area. A great blue heron rookery occurs approximately 4.83 kilometers (three miles) by air southeast of Kalispell (Craig 1993). However, it is more than 1.61 kilometers (one mile) from the existing US 93 corridor and therefore would not be affected by any of the proposed alternatives.

Although the same species occur in these rivers as in the Flathead River, the primary species of concern in the Stillwater and Whitefish rivers are the bull and westslope cutthroat trout. These species typically spawn in the tributaries of the Stillwater and Whitefish Rivers. Their occurrence in the rivers is limited to the migratory periods when they are moving between tributaries of the Stillwater and Whitefish rivers and Flathead Lake.

In addition, a natural area, and a conservation easement have been identified in the project area. These are the Owen Sowerwine State Natural Area, and the Whitefish Spruce Swamp Conservation Easement (Craig 1993). Neither of these occur within any of the proposed alignments. The Lone Pine State Preserve also occurs in the project area. However, it is not currently managed for any sensitive species (Cross 1993).

3.15 Historic and Cultural Resources

Historic and cultural resources are protected by the National Historic Preservation Act. Coordination with the State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP) is required.

3.15.1 Historic Context

3.15.1.1 Early History

The Flathead and Whitefish River Valleys and the surrounding intermountain area, including what is now northern and central Idaho, was long occupied by the Bitterroot Salish or "Flathead", the Lower Pend d'Oreille and the Kootenai. The Kootenai primarily occupied lands in the Kootenai River Valley but also hunted and fished along the Whitefish River and the lakes from Flathead Lake north. The area was also influenced by other tribal groups such as the Blackfeet who either raided or traveled through the area.

The first historic mention of the Flathead Lake area was in a letter written by Peter Fidler, an employee of the Hudson's Bay Company, on July 10, 1802. Non-native incursions into the Flathead Lake area are first documented in 1807 when Northwest Fur Company explorer, geographer, cartographer and trader David Thompson established Kootenae House at the foot of Lake Windermere.

The first official American presence in the Flathead Valley occurred in 1854 when John Mullan first traveled to the area. Mullan eventually laid out what became known as the Mullen Road, which ran between Fort Benton and Walla Walla, Washington. Although it did not go through the Flathead area, this road provided a jumping off point for incursions into the Flathead Lake area, thus changing the area permanently.

Following the many gold strikes of the 1850s and 1860s, prospectors flooded into the mountain West seeking their fortune in the rich strikes at Grasshopper Creek and the gulches named Alder, Last Chance and Confederate. By 1864, the population shift caused by these strikes caused the northern half of the infant Territory of Idaho to break away and form the new Territory of Montana.

While no gold was found in the Flathead Lake area, a small placer strike occurred in 1864 in the Kootenai region across the international border at Wild Horse Creek near Canada's Fort Steele. Miners and their supplies streamed up the Flathead valley roughly following a route traveled by John Mullen in 1854. The strike, while rich, was short lived. It proved important to the Flathead Valley by establishing transportation routes from the Clarks Fork River through the Flathead Lake valley to the Kootenai region. White population in the Flathead Valley began to climb after the Northern Pacific Railroad reached Missoula in 1883 and commercial navigation of Flathead Lake began in 1884. Steamboats carried freight and passengers from Foot of the Lake (now Polson) to the head of navigation at Demersville on the Flathead River. Rails finally came to the area in 1891, when the Great Northern arrived at the new town of Kalispell. The railroad opened the area to markets of local goods, primarily timber. Farmers found rich soil under the valley grasslands and sawmills sprang up to cut the great timber resource (GCM 1992; Gray 1990; Johnson 1950; Spritzer 1979).

3.15.1.2 Somers

Somers was a mill town established in the early 1900's to supply Hill's Great Northern Railroad with railroad ties. John O'Brien built the townsite of Somers on 141.8 hectares (350 acres) of that land he purchased from Tom McGovern, who had homesteaded the property at the head of the lake in the 1880's. The company at one time owned 122 dwellings in the town and the general store. Somers was a boom town in the early 1900's and attracted workers of a variety of ethnic backgrounds to the area.

The mill was supplied logs by means of winter (and some summer) logging along the Whitefish, Stillwater, Swan and Flathead Rivers, and spring log drives down these rivers to booms on Flathead Lake. From these booms the logs were pulled across the lake to the Somers Mill. The logs were then milled into ties, lumber for the

manufacture of sashes, doors, and boxes, and lumber for marketing in newly established areas, including towns in the Flathead Valley and other parts of the State. These products were then loaded on railroad cars and transported first by way of the spur line and then by other lines to their points of use. For example, the Somers Lumber Company purchased lumber-yards in Mohall, North Dakota, and Havre, Montana, as outlets in these newly developing regions. According to Elwood, "These yards which served as branches during the rush of settlers to the west were later sold to private operators."

The mill had a capacity of producing about 68,625 meters (225,000 feet) of lumber per day. In 1904, it used 9,150,000 meters (30 million feet) of timber to produce 900,000 ties for the Great Northern Railway and also sawed an additional 9,150,000 meters (30 million feet) of lumber, including ceiling lumber, flooring, molding and siding.

In 1906, the Great Northern Railway purchased the mill and the company's name subsequently changed to the Somers Lumber Company. The mill reached peak operation in 1937 when 375 men annually processed "60 million feet of timber." In 1941, the name of the company was changed to Glacier Park Company, Somer's Lumber Division. The mill shut down in 1948 and the planer in 1949. The mill was then dismantled. For the nearly 50 years of its operation the mill was the largest sawmill operation in the Flathead Valley and had the largest single payroll.

3.15.1.3 Kalispell

The major impetus behind settlement in the project area was the coming of the Great Northern Railroad to Kalispell in 1891. There had been an influx of settlers to Demersville in the spring of 1891, and hope persisted there that the town would remain the center for area emigration either by the Northern Pacific being constructed from Missoula to Polson (or even up the west shore of the lake) or by the Great Northern being constructed through Demersville. However, with the arrival of the Great Northern in Kalispell, buildings were moved from Demersville to Kalispell, and the town of Demersville quickly faded as a viable community.

The town was formally founded March 17, 1891 and named Kalispell by James J. Hill. The name, taken from the language of the Pend d'Oreille, means "prairie above the lake".

An October 20, 1891 meeting of the County Commissioners established the Kalispell Townsite and appointed justices and constables for the town. The town was incorporated in 1892, with Benton D. Hatcher as its first mayor. A volunteer fire department was established and Chester B. Davis was selected to construct the city's water system. The latter measure was taken only after a fire had consumed an entire city block in May 1892. Drought and bad crops, the depression of 1893, and a railroad strike in 1894 all contributed to a slowdown. However, business revived in 1895 and building once again picked up.

The Kalispell-area economy continued to grow after 1900, even though the Great Northern had moved the division point northward to Whitefish. The general area growth was caused by the growth of agriculture near Kalispell and by the development of the lumber industry, especially north of Kalispell.

The other major impetus behind the development of the area was the lumber industry, itself the result of the construction of the Great Northern Railroad, which required timber for ties, trestles, etc. There were at least two sawmills in the upper Flathead area by the middle of the 1880s, one at Foy's Lake and the other at nearby Ashley.

Kalispell's first mill was the Butte and Montana Mill, a Boston organization, which cut timbers for the Great Northern Railroad and the Butte mines. It later became known as the Coram Lumber Company.

3.15.1.4 Whitefish

The early white men in what became the Whitefish area were trappers and explorers of the British Northwest Company and the Hudson's Bay Company, and missionaries who worked out of the Flathead Indian Reservation. The first known white man to settle in the Whitefish area was John Morton, who, in 1883 built a cabin at the mouth of the Whitefish River. In the winter a group of trappers camped at the upper end of Flathead Lake. By the late 1880s several lumbermen were living in the area cutting and then floating logs to the new mills in Kalispell. Lumber camps were established and later lumber mills were constructed.

The earliest area settlers came from nearby towns such as Columbia Falls, Demersville, or Kalispell, or from the midwest states, following railroad promotion. They came by way of boat to Demersville and then 25 miles by trail to the Whitefish Lake area. W. O. Hutchinson, who arrived in the area in 1890, noted that the location of the present town of Whitefish was a marsh area that travelers circled on their way from Kalispell or Columbia Falls to Whitefish.

The earliest cabins on the lake were those of Morton and Charles Ramsey. The latter built a rooming house near his cabin to house tourists attracted to the area by its plentiful fish and game. In the 15 years after 1890, a small settlement grew up around these cabins.

The Whitefish area experienced little growth from the mid-1890s to the coming of the Great Northern in 1903. During that time, those living in the area worked mostly at odd jobs. The Great Northern reached Kalispell in 1892. During the construction of the railroad, several construction camps sprang up in the area.

The construction of the railroad to Whitefish changed the appearance of the Whitefish Lake community. Hotels and rooming houses were built on the hill near the lake and along "Engineer's Row" in the Ramsey Addition to Whitefish. Most of those arriving in the Whitefish area between 1894 and 1905 were transients and itinerant workers, but after 1905 a "sturdier" stock remained. The railroad company required its engineers, firemen, and other permanent employees to live in Whitefish rather than in Columbia Falls or Kalispell.

In the early 1900's, the townsite shifted from Ramsey's to a site near the railroad in a marsh, wooded swamp at the south end of the lake. Articles of Incorporation for the Whitefish Townsite Company were filed on July 13th. The town was incorporated in April, 1905 and the first regular meeting of the Town Council was held in July, 1905. By that time, 950 people were living in the town.

The Great Northern Railroad was the major employer in Whitefish. The railroad's monthly payroll by 1907 was $150,000. One of the early associated activities was providing ties to the railroad.

The second most important industry in the Whitefish area was lumbering. By 1906 there were eight lumber camps in the area. The logs on the lake in the spring were floated down the Whitefish River to the Stillwater River and the Flathead River to mills on the north end of Flathead Lake.

As these sources of economic growth developed, the town of Whitefish matured and replaced the first crude structures built to accommodate the loggers and railroad construction hands. The Business Men's Association of Whitefish and the Whitefish Townsite Company provided the government of Whitefish before the town incorporated in 1905.

The early town structures were frame or built of hewn tamarack logs or heavy sawed timber. The earliest brick structures were built in 1909. After 1910, the town matured in its physical appearance and the development of

its political and social institutions. The new brick city hall was completed in 1917, and in the 1920s cement sidewalks replaced the wooden and cinder walks, street grading and paving began, and curbs and storm sewers were established city-wide.

Transportation to other towns was provided by the railroad to the east and west coasts, and the spur line provided links to Kalispell and Columbia Falls. But road transportation to Columbia Falls and Kalispell was unreliable, and there were no usable routes to the Stillwater region or to areas south of Kalispell. In 1904 the roads to Kalispell and to Columbia Falls were improved. Some of the area settlers lived along these roads. In the early 1910s there was no road around the lake and boats were used to carry supplies to such places as Joe Belmore's cabin on the east side of the lake.

3.15.2 Summary of Results of Previous Cultural Inventories

There are **historic** properties previously **determined** eligible to the National Register of Historic Places (NRHP) or deemed to be of primary significance to NRHP eligible historic districts (see Figure 3-14). These properties were recorded during five projects:

- *Cultural Resource Inventory Kalispell - Somers Flathead County, Montana [F 5-3(27)104]* (Heritage Research Center 1986);
- *Cultural Resource Inventory Kalispell - Whitefish Flathead County, Montana [F 5-3(28)115]* (Heritage Research Center 1986);
- *Historical Resource Survey of Kalispell* (Taylor, Thon, Thompson and Peterson 1981);
- *Kalispell Historical Survey* (Kathy McKay, draft 1993); and
- *Cultural Resource Inventory Kalispell-Whitefish, 1.6 mile Extension [F 5-3(28)115] Flathead County, Montana* (Heritage Research Center 1988).

Eligible properties found during these surveys were:

- Altenburg Farm (24FH276)

- McCormack Farm (24FH277)

- Kalispell - Somers Railroad Spur line (24FH350).

- Zeretzke House (24FH305), in the southern part of Kalispell.

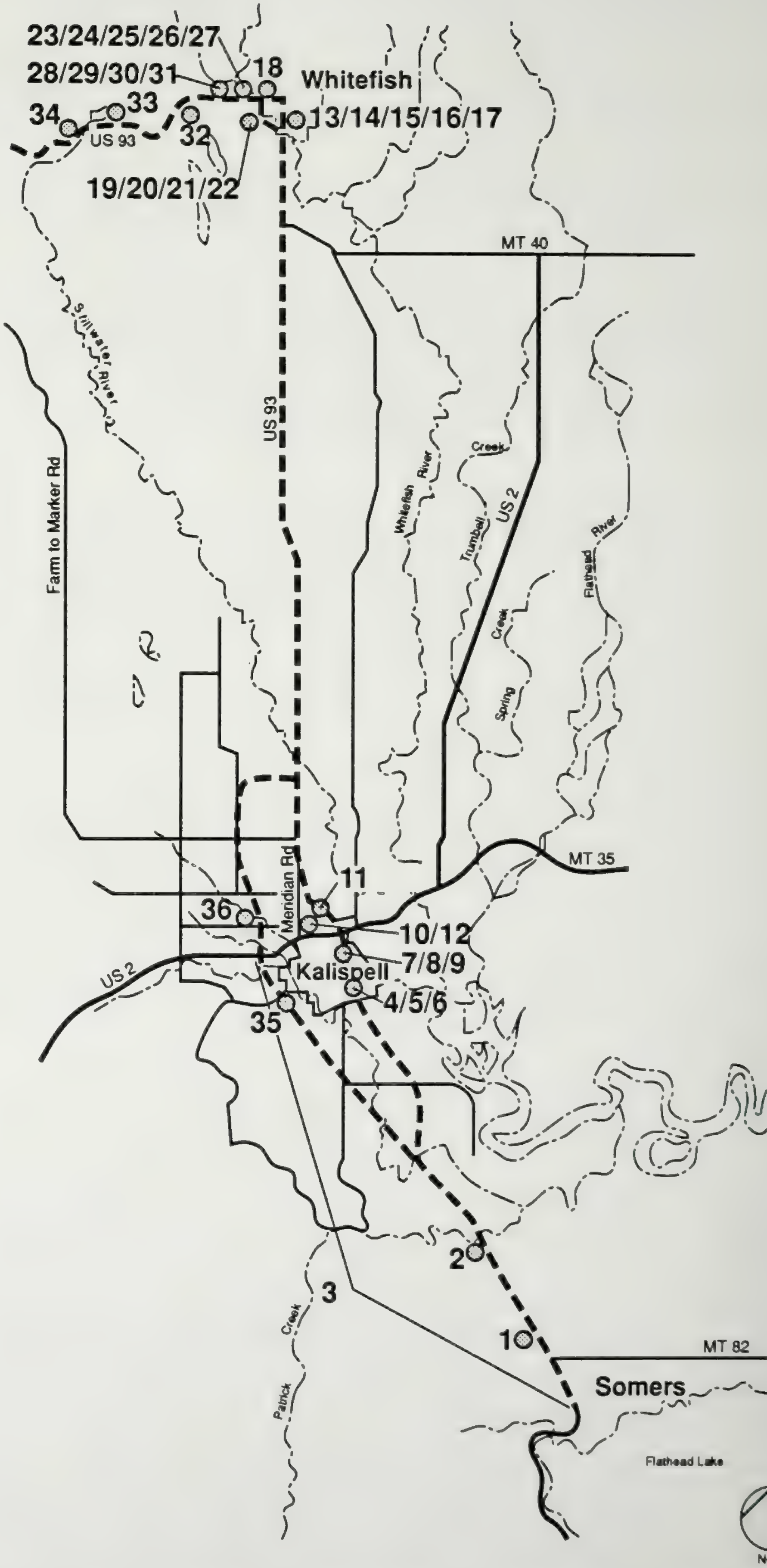
- The Kalispell Courthouse Historic District. The district, which runs along Main Street between the 500 and 800 blocks, contains 26 extant structures. Properties of primary significance include: the First Presbyterian Church (524 Main Street), Waggener & Campbell Funeral Home (525 Main Street), Bethlehem Lutheran Church (603 Main Street), Bethlehem Lutheran Parsonage (621 Main Street), Hodgkin-Wright Clinic (704 Main Street), McConnell House (705 Main Street), Sykes House (720 Main Street), Flathead County Courthouse (800 S. Main Street), Flathead County Jail (800 S. Main Street).

- The Kalispell Main Street Commercial District which has been determined eligible for the NRHP encompasses two and one half blocks of downtown Kalispell commercial properties. The district encompasses 41 extant structures. Structures of primary significance include: McIntosh Opera House (48 Main Street), Kalispell Hotel (102 Main Street), Brust Block (115 Main Street), First National Bank (139 Main Street), Pastime Bar (140 Main Street), Adams Block (217 Main Street),

Legend

- Historic Site or District eligible for the National Register of Historic Places

1. Altenburg Farm
2. McCormack Farm
3. Railroad Spur Line
4. Zeretzke House
5. Courthouse Historic District (Kalispell)
6. O'Neil Lumber Co. Office
7. Souser-Mercord Building
8. Main Street Commercial District
9. Anderson Style Shop
10. French House
11. Haberdash Shop
12. Miller House
13. Whitefish Historic Residential District
14. Methodist Church
15. Whitefish City Hospital
16. Garden Wall Inn
17. Willoughby House
18. Whitefish Historic Business District
19. Dr. William Taylor House
20. Hansen Cottage
21. Hennessey House
22. Ray E. Taylor House
23. Central High School
24. Glacier Garage
25. Masonic Temple
26. Duncan Sampson Block
27. J.A. Sampson Residence
28. Harlow House
29. Hennessy Log Bungalow
30. Midby Bungalow
31. Whitefish Country Club
32. Patten Mattress Factory
33. Westermark Place
34. Woodsman Cottage
35. McDonnell Place
36. Byrne Farm



Somers to Whitefish
Environmental Impact Statement

Figure 3-14
Historic Sites and Districts

Knight and Twining Block (237 Main Street), Masonic Temple (241 Main Street), Whipps Block (301/309 Main Street), Gas Co-op Service Station (343 Main Street), Liberty Theater (116 1st Ave East) and the Montana Hotel (142 1st Avenue East). The Anderson Style Shop (222 Main Street) was previously recorded and **determined** eligible for the NRHP.

- The Sauser-Mercord Building (338-340 Main Street) and the O'Neal Lumber Company Office (424 Main Street) in Kalispell.

- The "Castle" Ray E. Taylor House (24FH449) at 200 Eighth Street in Whitefish.

3.15.3 Sites Recorded for the US 93 Somers-Whitefish EIS

One hundred and sixty historic properties were recorded along the proposed alignments but no prehistoric sites were located or reported. Tables 3-24 through 3-29 list the sites and present their eligibility status.

3.15.3.1 Somers to Whitefish on Existing Alignment

Although the route was resurveyed, no new sites were recorded along US 93 between the south end of the project near Somers and the Kalispell city limits.

A summary of significant sites along the existing alignment corridor from Somers to Whitefish is presented in Table 3-24.

Table 3-24
Significant Historic Sites, Somers-Whitefish
US 93 Existing Alignment (Along Alternative A)

Name	Address	City	Status/ Smithsonian #
Altenburg Farm		Somers	24FH276
McCormack Farm		Somers	24FH277
Railroad Spur Line	Somers to Kalispell		24FH350
Zeretzke House	947 Main Street	Kalispell	24FH305
Courthouse Historic District		Kalispell	P
O'Neil Lumber Co. Office	424 Main Street	Kalispell	P
Souser-Mercord Building	338 Main Street	Kalispell	P
Main Street Commercial District		Kalispell	P
Anderson Style Shop	222 Main Street	Kalispell	P
French House	**115 West Wyoming**	**Kalispell**	**H/24FH658**
Haberdash Shop	**666 Sunset Boulevard**	**Kalispell**	**H/24FH660**
Miller House	**685 2nd Avenue WN**	**Kalispell**	**H/24FH661**
Whitefish Historic Residential District		Whitefish	H
Methodist Church	345 Spokane Avenue	Whitefish	H/**24FH499**
Whitefish City Hospital	406 Spokane Avenue	Whitefish	H/**24FH519**
Garden Wall Inn	504 Spokane Avenue	Whitefish	H/CR/**24FH520**

Table 3-24
(continued)

Name	Address	City	Status/ Smithsonian #
Willoughby House	647 Riverside Drive	Whitefish	H/24FH525
Whitefish Historic Business District		Whitefish	H
Dr. William Taylor House	550 Central Avenue	Whitefish	H/CR/24FH563
Hansen Cottage	580 Baker Avenue	Whitefish	H
Hennessey House	844 Baker Avenue	Whitefish	H/24FH567
Ray E. Taylor House	200 Eighth Street	Whitefish	H/24FH449
Central High School	Spokane and 2nd Street East	Whitefish	H/24FH546
Glacier Garage	540 2nd Street East	Whitefish	H/24FH547
Masonic Temple	Lupfer and 2nd Street East	Whitefish	H/24FH558
Duncan Sampson Block	301 2nd Street East	Whitefish	H/CB/24FH559
J.A. Sampson Residence	223 2nd Street East	Whitefish	H/CR/24FH560
Harlow House	415 2nd Street West	Whitefish	H/CR
Hennesy Log Bungalow	118 2nd Street West	Whitefish	H/CR/24FH569
Midby Bungalow	427 2nd Street West	Whitefish	H/24FH571
Whitefish Country Club	2nd Street West	Whitefish	H/24FH573
Patten Mattress Factory	2055 Highway 93 West	Whitefish	24FH497
Westermark Place	2626 Highway 93 West	Whitefish	H/24FH579
Woodsman Cottage	2860 Highway 93 West	Whitefish	H/24FH580

P = Previously determined eligible to the NRHP.
H = Eligible to the NRHP.
CB = Contributing to the Whitefish Historic Business District.
CR = Contributing to the Whitefish Historic Residential District.
N = Not eligible for the NRHP and not contributing to a historic district.

3.15.3.2 Kalispell - Existing Alignment

This segment of highway is in an urban environment and has been the subject of three previous surveys. A walking tour of main street verified that all historic structures along US 93 / Main Street have been previously recorded.

3.15.3.3 North Kalispell - Existing Alignment

From the point where Main Street intersects California Avenue and becomes Sunset Boulevard to the intersection of US 93 and Reserve Street 13 historic structures were recorded. Three of these structures meet the criteria of significance for the NRHP and are therefore eligible for the Register. **These are the French House (24FH658), Haberdash Shop (24FH660) and Miller House (24FH661).**

From US 93 north of Reserve Street to the intersection of Montana Highway 40 two historical sites were recorded. Neither of these structures meet the criteria of significance for the NRHP and are therefore not eligible for the Register. One of the previously recorded non-eligible sites (24FH312) along the route has been destroyed through the construction of a mini-storage facility.

From US 93 north of the Montana Highway 40 intersection to the Whitefish city limits two historic sites were recorded. Neither of these sites meet the criteria of significance for the NRHP and are therefore not eligible for the Register. One of the previously recorded non-eligible sites (Oasis Cabin 24FH371) along the route has been destroyed by fire.

3.15.3.4 Kalispell - Alternative B

Alternative B follows the previously discussed Kalispell -Somers Railroad Spur line (24FH350) from where it leaves the existing right of way approximately 4.83 kilometers (three miles) south of Kalispell to a point where it crosses Valley View Dr. At the points where it intersects Valley View Drive, three historic sites were recorded: 105 Valley View Drive, 335 Valley View Drive and 405 Valley View Drive. The McDonnell Farm (24FH496) at 335 Valley View Drive **is eligible for the NRHP**.

To the north where the route crosses US 2, a single two part site was recorded: 1433 US 2 with its barn at 1429 US 2. This site is not eligible for the NRHP, and is located well away from the current route behind modern structures. Several other older and more significant structures further to the west on US 2 were also noted, but not recorded.

Where Alternative B crosses Two Mile Drive, six sites were recorded: 505 2 Mile Drive, 510 Two Mile Drive, 524 Two Mile Drive, 577 Two Mile Drive, 611 Two Mile Drive and 720 Two Mile Drive. Because of the flexibility of the route at this point, a broad corridor was inventoried. The **Byrne** Farm (24FH493) at 611 Two Mile Road is eligible for the NRHP.

Where the route crosses Three Mile Drive, three sites were recorded: 212 3 Mile Drive, 236 Three Mile Drive, and 327 Three Mile Drive. Two of these houses, the McGlenn Place at 212 Three Mile Drive and the Nonemacher Place at 236 Three Mile Drive, are historical and quite impressive. Further research is needed before a recommendation can be made on their NRHP eligibility. Both sites are well away from the route. The Don Schultz Farm (24FH494) at 327 Three Mile Drive is eligible for the NRHP and is adjacent to the route.

The route follows Stillwater Road from a point to the north of Three Mile Drive to the intersection of Stillwater and Reserve Street. On this portion of the route two historic sites were recorded: 605 Stillwater Road and 245 Stillwater Road. While both of these sites were historic dairies, their loss of integrity precludes their consideration for the NRHP. Table 3-25 lists the historic sites recorded along Kalispell Alternative B.

Table 3-25
US 93 Existing Alignment
Kalispell Alternative B

Address	Name/Description	Status/Smithsonian #
Somers to Kalispell	Railroad Spur line	H / 24FH350
105 Valley View	Simmons Farm	N
335 Valley View Drive	McDonnell Place	H / 24FH496
405 Valley View Drive	Bastam Place	N
1433 Highway 2	Wager/Martin Place	N
505 2 Mile Drive	Sprenger Place	N
510 2 Mile Drive	Smith House	N
524 2 Mile Drive	Thorvildson Cabin	N / 24FH492
577 2 Mile Drive	Angus House	N

Table 3-25
(continued)

Address	Name/Description	Status/Smithsonian #
611 2 Mile Drive	Byrne Farm	H / 24FH493
720 2 Mile Drive	Frach Place	N
212 3 Mile Drive	McGlenn Place	U
236 3 Mile Drive	Nonemacher Place	U
327 3 Mile Drive	Don Schultz Place	H / 24FH494
245 Stillwater Road	Hill View Stock Ranch	N / 24FH495
605 Stillwater Road	Grossweiler Dairy	N

H = Eligible for the NRHP
N = Not eligible for the NRHP and not contributing to a historic district.
U = Undetermined eligibility for the NRHP status. Further ownership research is required to make a recommendation.

3.15.3.5 Whitefish - Spokane Avenue

From the southern city limits of Whitefish to 2nd Street East, the existing alignment of US 93 runs along Spokane Avenue. Spokane Avenue is historically significant for the large number of cottages and bungalows dating from the 1910s and 1920s that still exist and retain their integrity. Along Spokane Avenue 28 historic sites were recorded with an additional three sites along Riverside Street. Of these 31 sites, three are eligible for the NRHP and 21 sites contribute to the proposed Whitefish Historic Residential District. Only eight sites are not eligible for the NRHP nor do they contribute to the Whitefish Historic Residential District. Table 3-26 lists the sites along this segment along with their status in regards to the NRHP.

Table 3-26
US 93 Existing Alignment
Spokane Avenue Historic Sites, Whitefish, Montana

Address	Name/Description	Status/Smithsonian #
335 Spokane Avenue	Methodist Parsonage	CR/24FH499
345 Spokane Avenue	Methodist Church	H
405 Spokane Avenue	Rygg Cottage	CR
406 Spokane Avenue	Hospital	H/24FH519
411 Spokane Avenue	Village Square Realty	CR
422 Spokane Avenue	Carter cottage	CR
429 Spokane Avenue	Bowden Cottage	N
432 Spokane Avenue	Atchison Bed and Breakfast	CR
444 Spokane Avenue	Wicks Cottage	N
445 Spokane Avenue	Gilliland Bungalow	CR
504 Spokane Avenue	Garden Wall Inn	H/CR/24FH520
505 Spokane Avenue	Big Mountain Insurance	N
511 Spokane Avenue	Nelson Cottage	N
514 Spokane Avenue	Mace Bungalow	CR
519 Spokane Avenue	Barnett Bungalow	CR
527 Spokane Avenue	Wagner Cottage	N
533 Spokane Avenue	Smith Cottage	CR
538 Spokane Avenue	Frasier Bungalow	CR
543 Spokane Avenue	Reimer Bungalow	CR

Table 3-26
(continued)

Address	Name/Description	Status/Smithsonian #
547 Spokane Avenue	The Landlord	N
550 Spokane Avenue	Ost House	N
560 Spokane Avenue	Sargent Cottage	CR
565 Spokane Avenue	Benda Cottage	CR
566 Spokane Avenue	Sparks Cottage	CR
567 Spokane Avenue	Chuck Olson Real Estate	N
570 Spokane Avenue	Russell Bungalow	CR
737 Spokane Avenue	Cyrus Nelson House	N/24FH521
615 Riverside Drive	Foundation	N/24FH522
633 Riverside Drive	Linn House	N/24FH523
639 Riverside Drive	Gordon Cottage	N/24FH524
647 Riverside Drive	Willoughby House	H/24FH525

H = Individually eligible for the NRHP
CR = Contributing to the proposed Whitefish Historic Residential District.
N = Not eligible for the NRHP and not contributing to the proposed Whitefish Historic Residential District.

3.15.3.6 Whitefish - Baker Avenue

This alternative route for US 93 runs through a relatively recent commercial development and a gravel pit on the south end and a residential area on the north. To the north of the Whitefish Bridge on the east side of the street, the historic dwellings have been removed to make room for a new post office and the new Whitefish Credit Union building. Along this route 21 historic structures have been recorded. The Ray E. Taylor House (24FH449), more commonly known as the "Castle", was previously recorded and is listed on the NRHP but both are well away from Baker Avenue. Two dwellings, the Hennessey House at 844 Baker Avenue which was originally built as a garage for the Castle and the **Dr. William Taylor House** at 550 Central Avenue are eligible for the NRHP. Two buildings on the north end of the street contribute to the proposed Whitefish Historic Business District. Six sites contribute to the proposed Whitefish Historic Residential District and 10 sites are not eligible nor do they contribute to the Whitefish Historic Residential District. Several additional structures such as the Assembly of God Church were also recorded, but dropped from consideration when research revealed that they were not historic. Table 3-27 is a listing of all historic properties recorded on Baker Avenue.

Table 3-27
Whitefish, Montana
Baker Avenue Historical Sites

Address	Name / Description	Status / Smithsonian #
221 Baker Avenue	Flathead Travel	N/24FH561
239 Baker Avenue	Harry Hotel Garage	N/24FH562
305 Baker Avenue	Alpine Chiropractic	CR
315 Baker Avenue	Nelson Bungalow	CR
331 Baker Avenue	Winton Cottage	N
500 Baker Avenue	**Riverside Park**	**CR**
550 Central Avenue	**Dr. William Taylor House**	H/CR/24FH563
577 Baker Avenue	Hoppe House	N
580 Baker Avenue	Hansen Cottage	H

Table 3-27
(continued)

Address	Name / Description	Status / Smithsonian #
583 Baker Avenue	Jan Bell House	CR
603 Baker Avenue	Feeney House	N
604 Baker Avenue	Meirsma Bungalow	CR
612 Baker Avenue	Gaertner House	CR
704 Baker Avenue	Moen House	N
722 Baker Avenue	Thompson House	N
728 Baker Avenue	Jungs House	N
734 Baker Avenue	Johnson House	CR
109 Eighth Avenue	Cheff Cabin	N/24FH564
841 Baker Avenue	Gordon House	N/24FH565
847 Baker Avenue	Wicen Cabin	N/24FH566
844 Baker Avenue	Hennessey House	H/24FH567
200 Eighth Street	Ray E. Taylor House	H / 24FH449
9th and Baker Avenue	Tacheny Shop	N/24FH568

H = Eligible to the NRHP
CB = Contributing to the proposed Whitefish Historic Business District
CR = Contributing to the proposed Whitefish Historic Residential District
N = Not eligible for the NRHP and not contributing to a historic district

3.15.3.7 Whitefish - 2nd Street East

The existing alignment of US 93 turns west in downtown Whitefish at the corner of Spokane Avenue and 2nd Street East. The East designation continues from the corner to where the highway crosses the Whitefish River, west of this point the route is on 2nd Street West. On the 2nd Street East segment, 17 historic structures were recorded. Of these, five are eligible for the NRHP: Central High School, Glacier Garage, the Masonic Temple, Duncan Sampson Block, and the J.A. Sampson Residence. Several recorded structures such as the Whitefish Pilot building and the Peterson Dentist Office were dropped from consideration after research revealed them to be non-historic. Table 3-28 is a listing of all historic properties recorded on 2nd Avenue East.

Table 3-28
Whitefish, Montana
2nd Street East Historical Sites

Address	Name / Description	Status / Smithsonian #
628 2nd St. East	Central High School	H/24FH546
540 2nd St. East	Glacier Garage	H/24FH547
147 Central Avenue	Robinson Building	N/24FH549
205 Central Avenue	Orpheum Building	N/24FH548
148 Central Avenue	Haines Drugstore	N/24FH550
419 2nd St. East	Whitefish Meat Market	N/24FH553
429 2nd St. East	Central Hotel	N/24FH551
418 2nd St. East	Whitefish Credit Union	N/24FH552
410 2nd St. East	Grannie Annies	N/24FH554
Baker and 2nd St. East	City Hall	N/24FH555

Table 3-28
(continued)

Address	Name / Description	Status / Smithsonian #
336 2nd St. East	Great Northern Bar (Glacier Cyclery)	N/24FH556
304 2nd St. East	Masonic Temple	H/24FH558
301 2nd St. East	Duncan Sampson Block	H/CB/24FH559
223 2nd St. East	J.A. Sampson House	H/CR/24FH560
226 2nd St. East	Campbell Funeral House & LaBrie Bungalow	N/CR
220 2nd St. East	Wright Impressions	N
214 2nd St. East	Episcopal Rectory	CR
212 2nd St. East	Episcopal Church	N

H = Eligible to the NRHP
CB = Contributing to the proposed Whitefish Historic Business District
CR = Contributing to the proposed Whitefish Historic Residential District
N = Not eligible for the NRHP and not contributing to a historic district

3.15.3.8 Whitefish - 2nd Street West

From the Whitefish River Bridge to a point west of the Whitefish Golf Course where the road bends to the southwest at Lion Mountain Loop Road, the present alignment of US 93 follows 2nd Street West. Primarily a residential street, 38 of the 39 historic sites recorded were dwellings. Of the 38 residences, 25 contributed to the proposed Whitefish Historic Residential District (WFHRD) and four were not eligible for the NRHP nor do they contribute to the proposed Residential District. The Harlow House at 415 2nd Street West is eligible for the NRHP and contributes to the WFHRD. Several structures such as those at 33 and 37 2nd Street West appear to be old enough for recordation, but further research revealed that they were moved onto their present location after the construction of Hungry Horse Dam. The only historic structure on this stretch of highway that is not a dwelling is the Whitefish Country Club, which is eligible for the NRHP. Table 3-29 lists the historical sites and buildings along 2nd Street West.

Table 3-29
Whitefish, Montana
2nd Street West Historical Sites

Address	Name / Description	Status / Smithsonian #
11 West 2nd Street	Morgan Bungalow	CR
20 West 2nd Street	Brennan House	CR
25 West 2nd Street	Edmundson Bungalow	CR
38 West 2nd Street	Murphy House	CR
40 West 2nd Street	Stewart Bungalow	CR
50 West 2nd Street	McGrath House	N
114 West 2nd Street	Babcock Cabin	CR
118 West 2nd Street	Hennessy Log Bungalow	H/CR/24FH569
121 West 2nd Street	Monk Bungalow	CR
124 West 2nd Street	Cookingham House	CR
133 West 2nd Street	Purves House	N
134 West 2nd Street	Best Cottage	CR

Table 3-29
(continued)

Address	Name / Description	Status / Smithsonian #
144 West 2nd Street	Hair Connection	N
214 West 2nd Street	Dugan House	N
224 & 226 West 2nd Street	Tibbits Cottages	CR
225 West 2nd Street	Hogan House	N
244 West 2nd Street	Karstetter Cottage	CR
245 West 2nd Street	Markus Cottage	N
305 West 2nd Street	Littlefield Bungalow	CR
314 West 2nd Street	Harris Cottage	CR
315 West 2nd Street	Franklin Bungalow	CR
322 West 2nd Street	Aylesworth Cottage	N
327 West 2nd Street	Josephson Bungalow	CR
336 West 2nd Street	Dunham Shanty	N
340 West 2nd Street	Dunham Shanty II	N
414 West 2nd Street	Kastella Bungalow	CR
415 West 2nd Street	Harlow House	H
424 West 2nd Street	Loomis Cottage	N
427 West 2nd Street	Midby Bungalow	H
435 West 2nd Street	Lodinaff House	CR
438 West 2nd Street	Geddes House	N
514 West 2nd Street	Steury Cottage	N
526 West 2nd Street	Narnst Cottage	N
527 West 2nd Street	Search House	CR
532 West 2nd Street	Hamlin House	N
640 West 2nd Street	Hanson Bungalow	N
702 West 2nd Street	Funk House	N
714 West 2nd Street	Knapton Cabin	CR
724 West 2nd Street	Storkson Cottage	CR
205 Parkhill Avenue	Northern Silver Fox Farm	N/24FH572
	Whitefish Country Club	H/24FH573

H = Eligible to the NRHP
CD = Contributing to the Whitefish Historic Business District
CR = Contributing to the Whitefish Historic Residential District
N = Not eligible for the NRHP and not contributing to a historic district

3.15.3.9 Whitefish - West

This portion of US 93 runs through the wooded hills to the west of Whitefish, ending at MP 135. **Nine** historic sites were examined along the project corridor. **Three** sites, the Patten Mattress Factory (24FH497) at 2055 US 93 West, **the Westermark Place (24FH579) and the Woodsman Cottage (24FH580) are** eligible for the NRHP. The other **six** sites are not eligible nor do they contribute to any historical district.

3.15.4 Rural Historic Landscapes

The primary rural historic landscape between Somers and Whitefish revolves around an agricultural theme. However, along major arterials such as US 93, there has been a remarkable growth of commercial and residential development. While agricultural properties such as the Altenburg Farm (24FH276) and McCormack Farm (24FH277) may be individually eligible for the NRHP, they have become imbedded in a corridor of relatively recent development.

A key component to the historic agricultural landscape is the spatial relationship between farmsteads. The original 64.8-hectare (160-acre) farms were characterized by a house and barnyard separated from its neighbors by expanses of open fields. The urbanization of the US 93 corridor has filled in the expanses with commercial enterprises, subdivisions and trailer courts.

The project area has two agricultural areas that are exceptions to this corridor of modern development: Alternate B west of Kalispell and a portion of US 93 at the extreme northwest end of the project.

The land within the Kalispell Alternative B area is characterized by gently rolling hills and occasional small winding creeks. The farm buildings are generally clustered near the roads, and the fields are both fenced and open and have not been reshaped by major construction projects.

Kalispell was founded in 1891, and for several decades the area just a few miles to the west was agricultural. Some of the land may have been a natural meadow, as the Kalispell townsite was, and some may have needed clearing before agricultural activities could take place. The land was originally settled as 64.8-hectare (160-acre) and smaller homesteads that have subsequently been divided. Mixed farms were typical of the area, with most people raising hay and grains for livestock and some running more specialized operations such as orchards, a dairy, or hog farm. Farmers marketed their goods locally, primarily in Kalispell, or regionally via the Great Northern Railway beginning in 1892.

Within the past few decades, however, this landscape has been significantly altered by development as Kalispell as grown in size. Indicative of this increase in population and activity on the west edge of town, the new post office serving Kalispell was recently built within half a mile of some of the historic properties within the project area. Impacts on the physical integrity of the rural landscape just west of Kalispell include subdivisions and new home construction and the widening and paving of the roads in the area. The ridges of the rolling hills west of Kalispell are now dotted with modern houses.

No longer does the area have a dominantly agricultural feel. Views of rather densely-developed subdivisions are common, and in some cases they are adjacent to the project area. The only properties that retain an open, agricultural feeling are those on Stillwater Drive, where a large livestock operation still raises crops on the surrounding fields. The buildings on one of the properties (605 Stillwater Road), however, have been so greatly modified and added to that this property and its associated landscape are not eligible for the National Register. The 32.4-hectare (80-acre) field to the north of another property [Don Schultz Farm (24FH494), 327 Three Mile Drive] which is adjacent to Stillwater Road might be contributing to the significance of the property.

To the south of Stillwater Road the fields adjacent to the historic properties have been reduced in size, split by roads and houses, and otherwise altered to preclude nomination to the National Register. In most cases the surrounding area detracts from the historic feel and associations because of modifications and modern intrusions. The physical continuity of the agricultural community has been broken. Modern houses, apartment complexes and commercial sites line the roads and have also made inroads into some of the fields. This increasing suburbanization has disrupted the integrity of the historic patterns of land division and organization. Similarly, the construction of non-historic residences and agricultural buildings had reduced the ability of the

landscape to convey historic significance. Other properties in the Flathead Valley (including farm buildings and associated landscapes) possess greater integrity and continuity than any of the properties along Alternative B.

Beginning around Milepost 130 and continuing to Milepost 135, US 93 runs through an agrarian landscape. This landscape is characterized by meadows (both natural and man-made) utilized as pastures or for forage crops. While the area has the feel of a historic landscape, historic research has revealed that the majority of farms in this area were developed in the last 45 years. Only one property in the study corridor, the farmstead at 3980 Highway 93 West, was developed prior to World War II. Further, the size of the open fields has grown rapidly since the war. The practice of clearing the timber from the land is continued to this day. There is no practical way of separating modern fields, historic fields and natural meadowland.

3.15.5 Archaeological Properties

No archaeological sites were identified as a result of the field surveys performed for this project.

3.15.6 Other Cultural Sites

Both the Blackfeet Tribe and the Confederated Salish and Kootenai Tribes have been contacted to solicit their concerns regarding Native American cultural issues relating to the proposed project. For the Confederated Salish and Kootenai Tribes, two culture committees, the Kootenai and the Flathead were also contacted.

Information provided by the Confederated Salish and Kootenai Tribes of the Flathead Nation is that areas along Kalispell Alternative B may be of concern. This area was a gathering place for the Ktunaxa Nation which consisted of the many bands of the Kootenai people.

3.15.7 Park and Recreation Properties

Park properties are protected by Section 4(f) of the DOT Act. Coordination is required with the agency having jurisdiction over the Section 4(f) property and with the Department of the Interior.

3.15.7.1 General Description

The Somers to Whitefish study area includes a wide variety of recreational opportunities. A combination of topography, climate, vegetation and water features provides an opportunity for almost any type of athletic or outdoor activity. Outdoor activities are seasonally dependent in the Flathead Valley as in other places, and there are many activities as there are conditions. The following is a partial list of recreational activities available in the Flathead Valley:

Hiking	Fishing	Golf
Biking	Swimming	Horseback Riding
Skiing	Boating	Ultralight Flight
Hunting	Tennis	Baseball
Football	Sightseeing	Softball
Soccer	Ski Touring	Rafting
Wildlife viewing	Birding	Ecotourism

Two of the largest recreational attractions associated with the study area are Glacier National Park and Big Mountain Ski Area. Other federal areas of note for their recreational value are The Flathead National Forest which include the Great Bear and Bob Marshall Wilderness Areas, all of which provide excellent outdoor opportunities. Figure 3-15, 3-16 and 3-17 describes the locations of the significant state and local parks and recreation areas. All of these recreation resources depend heavily on the existing transportation network within the Somers to Whitefish study area.

In addition to the regional federal, state and private recreation areas there are numerous state, county and local parks, preserves and natural areas. Table 3-30 summarizes the existing and/or developable areas of recreation within the Flathead Valley.

Table 3-30
State, County and City Parks

Park / Recreation Area	Hectares (Acres)	Location/Activity
State Parks:		
Lone Pine Preserve	81(200)	Residential/hiking, wildlife viewing
Stillwater Game Preserve	1,134(2,800)	Residential/hiking, wildlife viewing
Stillwater State Forest	38,880(96,000)	Hiking, boating, 4-wheel driving, biking, cross-country
Whitefish Lake State Park	–	Boat launch, picnicking
Coal Creek State Forest	5,702(14,080)	Hiking, boating, 4-wheel driving, biking, cross-country
Kuhn's Wildlife Mgmnt Area	530(1,309)	Wildlife viewing, hiking
Batavia Waterfowl Production Area	241(595)	Birding, wildlife viewing
Flathead Waterfowl Production Area	1,053(2,600)	Birding, wildlife viewing
Developed Parks:		
Ben Williams	2.03(5)	picnic, barbecue, pavilion, playground, benches, volleyball
Two County Boat Ramps	0.08(.20)	ramps and docks
Ashley Lake Green Belt	4.05(10)	hiking/X-country trails
Conrad Complex	11.17(27.57)	softball, baseball, playground, concession, well house, bathrooms
Evergreen Lions	1.36(3.36)	basketball, tennis, playground
Foy's Lake	0.61(1.5)	boat launch, bathrooms
Foy's Community Center	0.81(2)	gathering hall
Green Acres West	1.03(2.54)	playground, volleyball
Herron Park	48.1(118.7)	equestrian, shelters, X-country trails, sledding, outhouses, picnic
Hillcrest Park	2.84(7)	baseball, bathrooms, playground
Kings Loop	2.11(5.21)	barbecue pits
Leisure Island	6.18(15.25)	boat launch
Meadow Hills	1.17(2.89)	playground, barbecue, picnic
North Haven	0.45(1.12)	playground
Silver Shadows	0.38(.93)	playground, backstop
Sunrise Terrace	0.87(2.16)	playground, picnic, benches
Little Bitteroot Boat Access	0.49(1.21)	boat launch
Whitefish Boat Access	0.18(.45)	outhouse, picnic, barbecue
Columbia Falls GSA	0.81(2)	picnic, playground, exercise trail
Blankenship Ridge	—	boat launch, outhouse, picnic
Kokanee Bend	1.7(4.2)	playground, backstop
Hungry Horse Islands	0.55(1.35)	picnic
Martin City Park	0.33(.82)	outhouse
Hungry Horse Ballfield	3.24(8)	ballfield
Aero Lane	0.81(2)	ballfield
Big Fork Access	0.08(.2)	boat dock
Big Fork GSA-Potozcny Field	0.93(2.3)	ballfield, outhouse, pavilion, storage

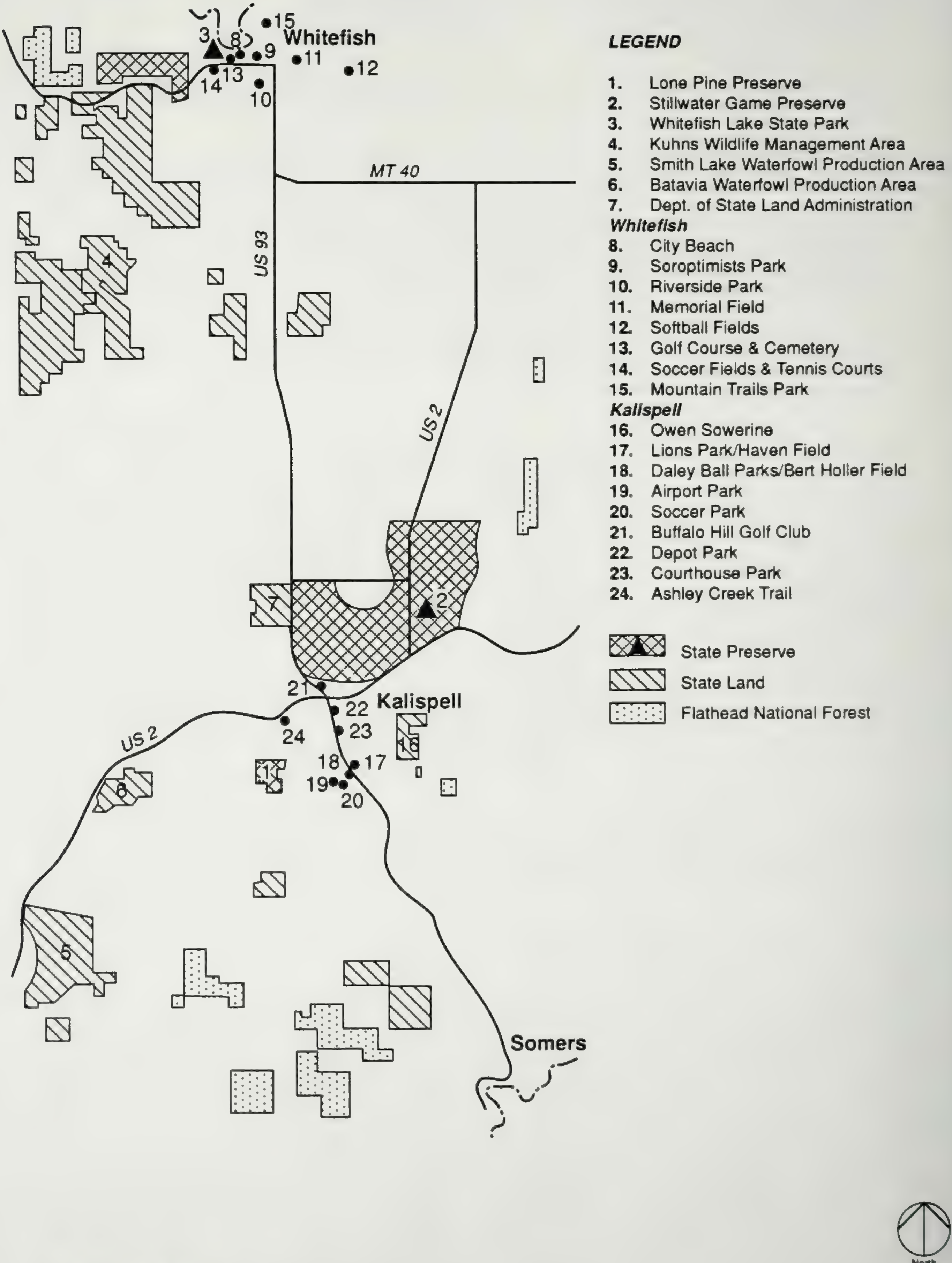


Figure 3-15

Parks • US 93 Corridor

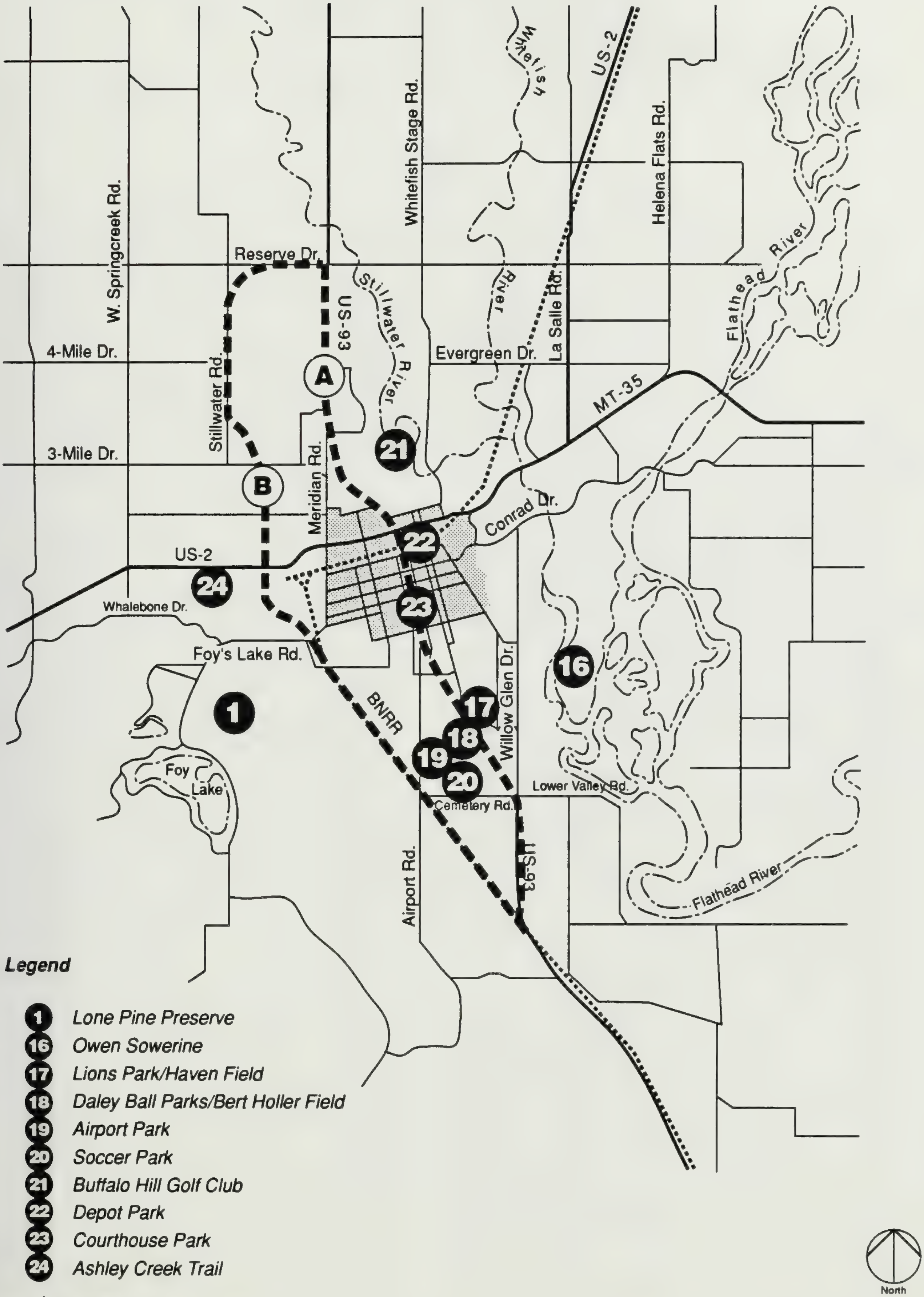


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Figure 3-16
Parks • Kalispell Area

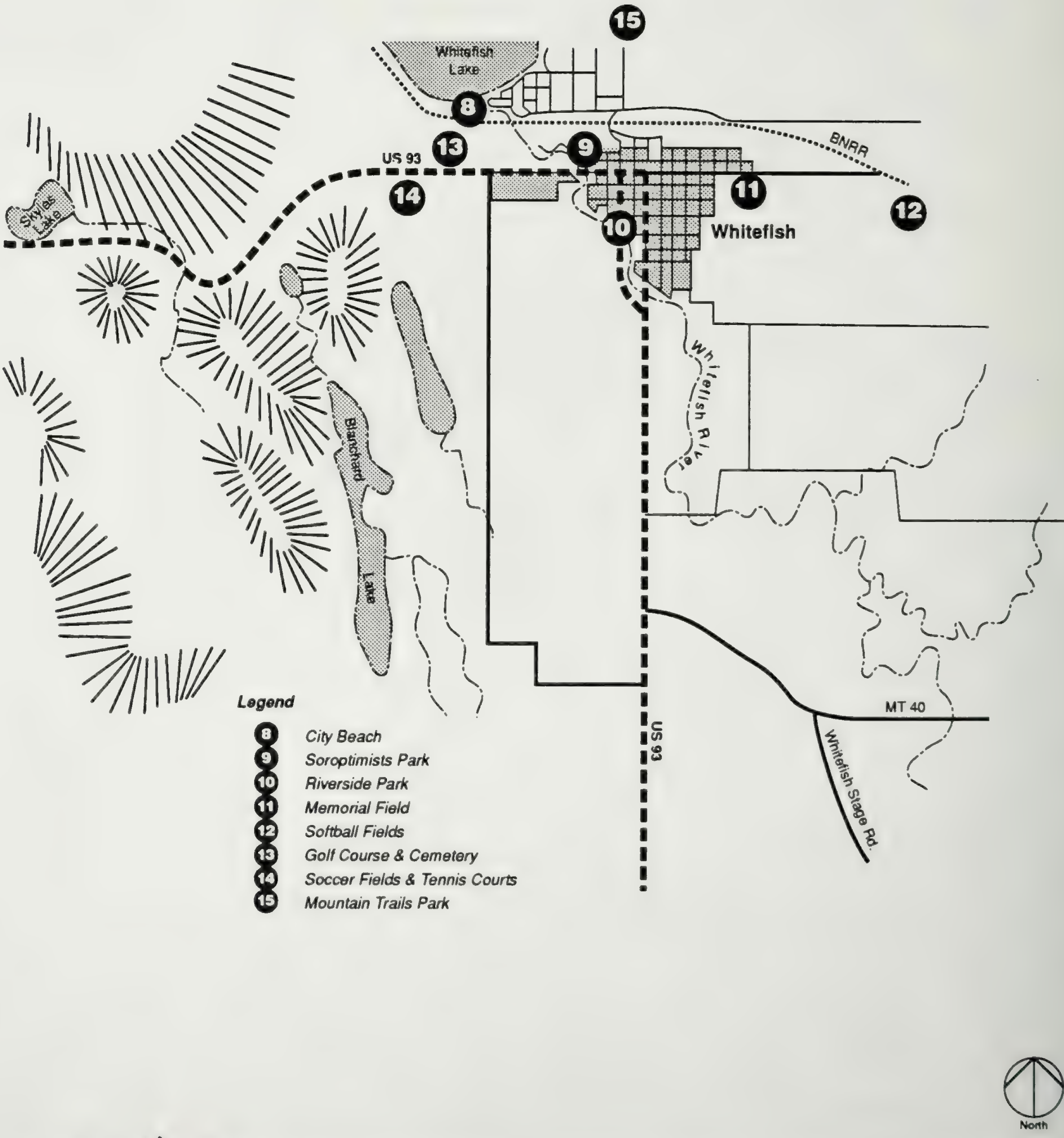

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Figure 3-17
Parks • Whitefish Area

Table 3-30
(continued)

Park / Recreation Area	Hectares (Acres)	Location/Activity
Big Fork PP&L-Sliter Park	1.36(3.35)	band shell, playground, picnic, benches, bathroom
Undeveloped Parks/Sites:		
Somers Big Park	4.2(10.4)	Section 23 Twp 27 Rng 21
Somers 5N & 5J	0.11(.27)	Section 26 Twp 27 Rng 21
Caroline Point	0.06(.15)	Section 6 Twp 26 Rng 20
Tamarack Woods	2.14(5.28)	Section 18 Twp 26 Rng 20
Troutbeck	1.94(4.8)	Section 12 Twp 26 Rng 21
Big Sky #9	0.31(.76)	Section 12 Twp 28 Rng 22
Camelot Estates	1.52(3.76)	Section 27 Twp 29 Rng 21
Country Estates	1.50(3.71)	Section 25 Twp 29 Rng 22
Two Mile Tracts	.07(.17)	Section 11 Twp 28 Rng 22
Wapati Acres	1.38(3.41)	Section 31 Twp 28 Rng 21
Western Acres	0.72(1.79)	Section 18 Twp 28 Rng 21
Lone Pine Ranch Top	10.35(25.55)	Section 24 Twp 28 Rng 22
Pleasant Hill	.41(1.01)	Section 4 Twp 28 Rng 22
Blue Grouse Park	.65(1.6)	Section 16 Twp 27 Rng 24
Kelsey Lot #21	.20(.5)	Section 16 Twp 27 Rng 24
Happy Valley	9.72(24)	Section 25/36 Twp 30 Rng 22
Eagle Point	0.77(1.91)	Section 4 Twp 31 Rng 22
Lazy Bay	1.3(3.21)	Section 5 Twp 31 Rng 22
Hilltop	0.75(1.86)	Section 12 Twp 30 Rng 21
Hewitts Homesites	0.49(1.21)	Section 3 Twp 31 Rng 19
Scenic View	3.04(7.5)	Section 35 Twp 32 Rng 19
Hungry Horse "H"	3.36(8.31)	Section 8 Twp 30 Rng 19
Tri-Lakes	13.7(33.82)	Section 10 Twp 31 Rng 20
Roy Cooper Park	1.11(2.74)	Section 27 Twp 35 Rng 21
Paola	1.56(3.86)	Section 16 Twp 30 Rng 16
Parma	1.06(2.61)	Section 19 Twp 29 Rng 16
Lake Hills	1.62(4.01)	Section 25 Twp 27 Rng 20
Swan River #7	0.28(.69)	Section 33 Twp 27 Rng 19
Alpine #2	1.76(4.35)	Section 9 Twp 27 Rng 19
Echo Acres and Access	2.36(5.82)	Section 4 Twp 27 Rng 19
Amy and Ann Lakes	0.61(1.5)	Section 13 Twp 28 Rng 20
Bass Lakes	0.69(1.7)	Section 24 Twp 28 Rng 20
Dan Lake	0.43(1.07)	Section 14 Twp 28 Rng 20
Double Lake	0.38(.94)	Section 24 Twp 28 Rng 20
Douglas Lake	0.23(.58)	Section 13 Twp 28 Rng 20
East Bass Lake	1.28(3.16)	Section 24 Twp 28 Rng 20
Gilbert Lake	0.28(.7)	Section 14 Twp 28 Rng 20
Horseshoe Dr.	0.54(1.34)	Section 14 Twp 28 Rng 20
John Lake	1.71(4.22)	Section 11/14 Twp 28 Rng 20
Kathy Lake	1.20(2.97)	Section 14 Twp 28 Rng 20
Kid Lake	1.58(3.91)	Section 13 Twp 28 Rng 20
Meredith Lake	4.04(9.98)	Section 24 Twp 28 Rng 20
Plummers Lake	0.41(1.01)	Section 14 Twp 28 Rng 20
South Many Lakes	3.41(8.41)	Section 23 Twp 28 Rng 20
Swimming Lake Court	0.71(1.76)	Section 14 Twp 28 Rng 20
Tamarack	1.13(2.80)	Section 13 Twp 28 Rng 20
Triangle	0.49(1.2)	Section 13 Twp 28 Rng 20
Flathead River Park & Assoc.	1.09(2.7)	Section 4 Twp 27 Rng 20
Pleasant View	2.65(6.54)	Section 4 Twp 28 Rng 20
Open Space / Natural Areas:		
Owen Sowerine	179(442)	Section 16 Twp 28 Rng 21

Table 3-30
(continued)

Park / Recreation Area	Hectares (Acres)	Location/Activity
Whitefish Parks:		
Mountain Trails Park	2.03(5)	gathering hall, ice rink, playground, volleyball
City Beach	1.22(3)	public access, swimming, paddleboats
Soroptimists Park	0.36(.9)	playground
Riverside Park	2.03(5)	tennis, picnic, playground
Memorial Field	4.05(10)	baseball, football
Softball Fields	10.13(25)	softball
Golf Course & Cemetery	51.43(127)	golf, visitation
Soccer Fields & Tennis Courts	3.05(7.53)	soccer, tennis
Kalispell Developed Parks:		
Woodland Park	15.59(38.5)	ballfields, bathrooms, playground, picnic, shelters, sledding, ice skating, swimming, horseshoes
Northridge Park	2.89(7.15)	tennis, playground, shelters, sledding
Meridian Park	1.34(3.3)	ballfields, playground, shelters
Thompson Field	.81(2)	ballfield, tennis, playground,
Hawthorne Park	.97(2.39)	tennis, playground
Washington Street Park	.41(1)	playground
Lions Park / Haven Field	4.05(10)	ballfield, restroom, playground, shelter
Depot Park	.41(1)	picnic, shelter
Park View Terrace	.13(.3)	playground
Sunset Park	1.84(4.55)	ballfield, playground
Daley Ball Parks / Bert Holler Field	4.05(10)	ballfield, restroom, playground,
Begg Park	3.35(8.27)	ballfield, restroom, soccer, shelter
Dry Bridge Park	10.13(25)	shelter, sledding, hiking trails
Lawrence Park	22.68(56)	restroom, playground, shelter, sledding, hiking trails
Courthouse Park	0.51(1.26)	shelter
Eagle Park	0.10(.25)	picnic, shelter
Heritage	0.81(2)	restroom, shelter
Bruckhauser Pool	—	picnic, restroom,
Buffalo Hill Golf Club	—	golf, restroom
Gallagher Park	0.81(2)	picnic, soccer, basketball,
Airport Park	22.28(55)	——
Soccer Park	4.05(10)	ballfields, soccer
Kalispell Undeveloped Parks:		
Grandview Dr. Park	1.82(4.5)	—
S. Woodland Park	2.43(6)	—
Airport Road Lot	0.96(2.36)	—
Buffalo Head Park	0.32(.8)	—

The total number of parks within the county is as follows:

County Park Totals

No.	Category	Hectares (Acres)
81	Parks	365.1(901.4)
31	Developed Parks	94.71(233.85)
49	Undeveloped Parks	91.35(225.55)
1	Natural Areas	179(442)

3.15.7.2 Description of Parks Adjacent to US 93

The following description of parks is for those immediately adjacent to US 93, Baker Avenue and the Kalispell bypass corridor.

Lone Pine State Park

Lone Pine State Park is an approximately square, steep and heavily wooded area that overlooks the Flathead Valley. It is located southwest of Kalispell in Township 28 North and Range 22 West. The park is owned by the State of Montana and included inside the Lone Pine State Game Preserve. There are picnic sites and walking trails in the area. Also included in this park is a visitors center. Access to the park and the visitors center is from the west.

Daley/Bert Holler Fields

The Daley / Bert Holler Ball Fields are located on the west side of US 93 at milepost 110.8, directly south of the Montana National Guard Armory. The site is located on a flat grassy area 4.05 hectares (10 acres) in size. This resource is owned and operated by the City of Kalispell. Available activities include baseball and softball. Facilities include parking, portable restrooms, bleachers, dugouts, storage shed and five ball diamonds. It has two access points; one directly off of US 93 halfway along its frontage and a secondary access along the Armory or north end of the park. For a detailed layout of Daley / Bert Holler Field refer to Figure 3-18.

Lions Park / Haven Field

Lion's Park and Haven Field are located at milepost 111.1 situated between US 93 and 3rd Avenue East. The site is located on a flat, grassy area with stands of coniferous and deciduous trees located about the Lion's Park section. The combined area of both portions is 4.05 hectares (10 acres). Both parks are owned by the City of Kalispell and Lion's Park is managed by the Kalispell Lions Club. Available activities include picnicking, playground use, baseball, softball and horseshoes. Facilities include parking, a tourist information center, two restrooms, public telephones, three picnic shelters, picnic tables, two baseball/softball diamonds, a batting cage and a press box/storage structure. Lion's Park has one access from US 93 and one access from 3rd Avenue East. Haven Field has one access point from 18th Street, between US 93 and 3rd Avenue East. For a detailed layout of Lion's Park / Haven Field refer to Figure 3-19.

Ashley Creek Trail / Rails to Trails

Ashley Creek Trail is discussed in more detail in Chapter 5 of this document.

Depot Park

Depot Park is an urban public park commemorating the historic Great Northern Railroad Depot, which is located within its boundaries. The park is located at the corner of US 93 and Center Street and is approximately .4 hectare (1 acre) in size. Depot Park is owned and maintained by the City of Kalispell. It is a grassy flat site with paved pedestrian walkways. Available activities include pedestrian use, picnicking. Facilities include the Great Northern Railroad Depot, picnic tables and strolling paths and a gazebo. Vehicle

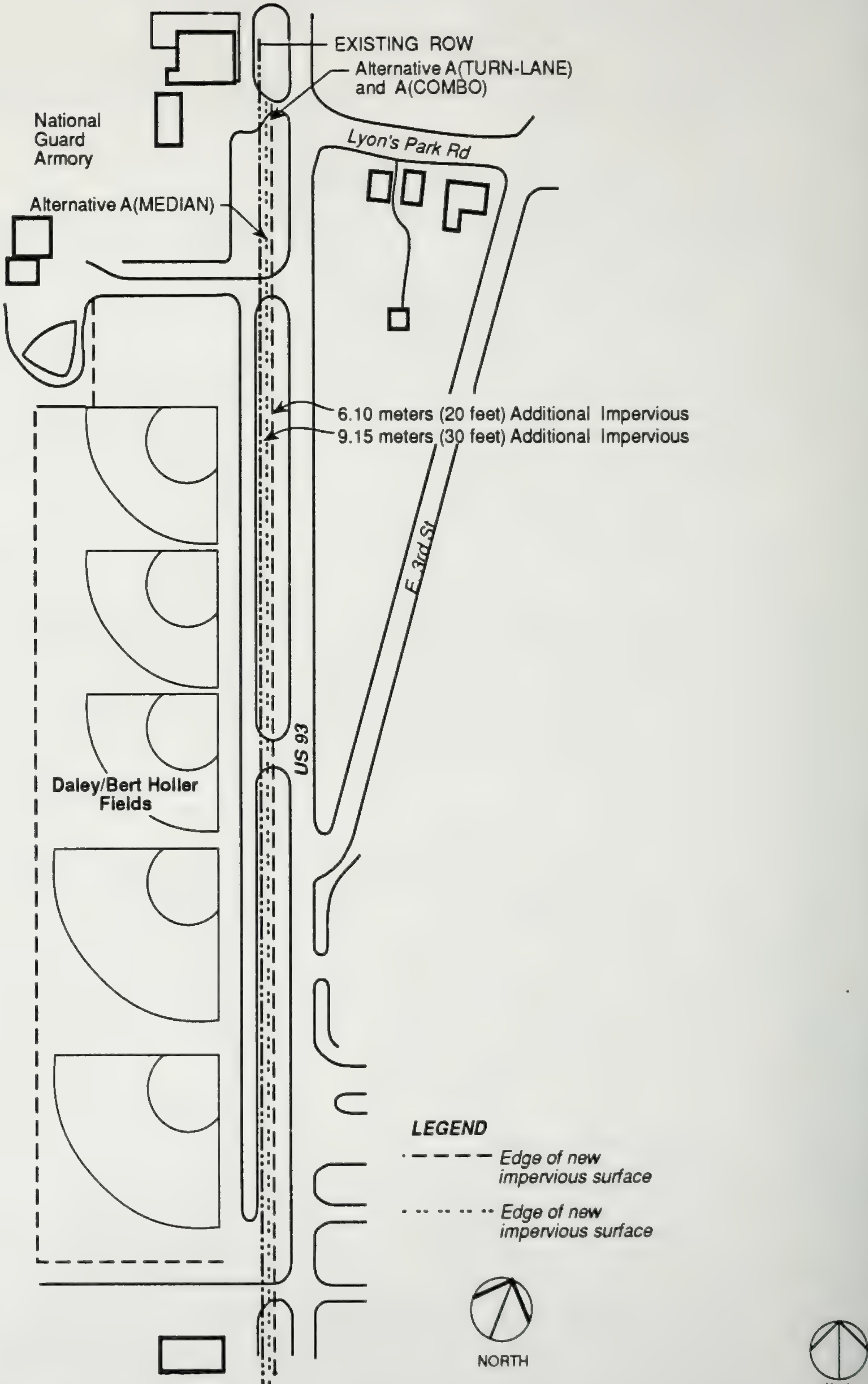

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Figure 3-18
Daley/Bert Holler Fields

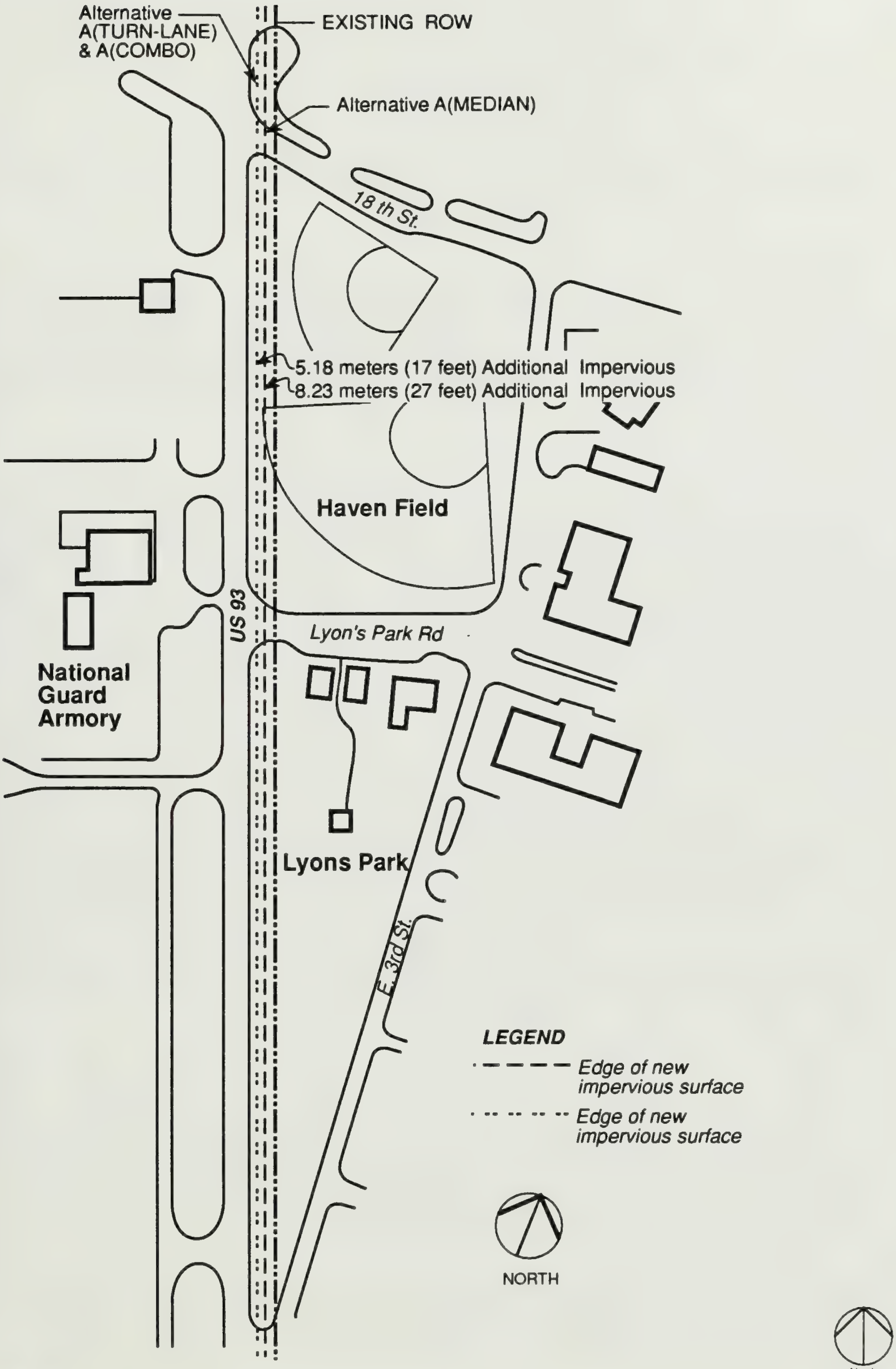

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Figure 3-19
Lyon's Park/Haven Field

access is located next to the Depot building itself along First Avenue. Pedestrians can access the park from any direction. The Depot building itself is currently used to house the Kalispell Chamber of Commerce. For a detailed map of Depot Park refer to Figure 3-20.

Buffalo Hill Golf Course

Buffalo Hill Golf Club is a public course owned by the City of Kalispell. It is large grassy area approximately 109 hectares (270 acres) in size with stands of coniferous and deciduous trees located along US 93 and North Main Street. Activities include golfing and cross-country skiing. Facilities include a clubhouse, restrooms, and an 18-hole golf course. The Stillwater River crosses through the northeastern side of the property (see Figure 3-21).

Riverside Park

Riverside Park is located on the east and west sides of Baker Avenue between the Whitefish River and Fifth Street. It is a 2 hectare (5 acre) site located on a sloped grassy area with mature stands of deciduous and coniferous vegetation. It is owned and managed by the City of Whitefish, Montana. Available activities include picnicking, playground use, tennis, and pedestrian use. Facilities include parking, portable restrooms, six tennis courts, pedestrian trail, picnic tables, park benches, and playground equipment. The park has three informal access points from Baker Avenue, including informal on-street parking (see Figure 3-22).

Whitefish Lake Golf Club

This public golf course is located of the north side on US 93 between mileposts 128.6 and 129.0, directly west of the Whitefish Cemetery. This 48.6 hectare (120 acre) site is located on a grassy area with topographic variations and mature stands of coniferous vegetation. It is owned and managed by the City of Whitefish. Available activities are golf, dining, and shopping. Facilities include parking, an 18-hole golf course, putting greens, clubhouse with dining area, pro shop, equipment rental, and restrooms, maintenance/storage structures and paved pedestrian pathways. This public property has one formal paved access point from US 93.

An unusual feature of this public property is that it was developed with federal assistance from the Land and Water Conservation Fund, so it is protected by Section 6(f) of the Land and Water Conservation Fund Act. For a detailed map of Whitefish Lake Golf Club area refer to Figure 3-23.

Whitefish Tennis Courts/Soccer Fields

These public tennis courts and soccer fields are located on the south side of US 93 West at milepost 128.8, west of the Grouse Mountain Lodge. The 3.04 hectare (7.5 acre) site is located on flat paved and grassy areas, with intermittent coniferous trees. It is owned and managed by the City of Whitefish. Available activities are tennis and soccer. Facilities include parking, three tennis courts, and two soccer fields. This public property has one formal, paved access point from US 93 West.

An unusual feature of this public property is that it was developed with federal assistance from the Land and Water Conservation Fund, so it is protected by Section 6(f) of the Land and Water Conservation Fund Act. For a detailed layout of Whitefish Tennis Courts and Soccer Fields refer to Figure 3-23.

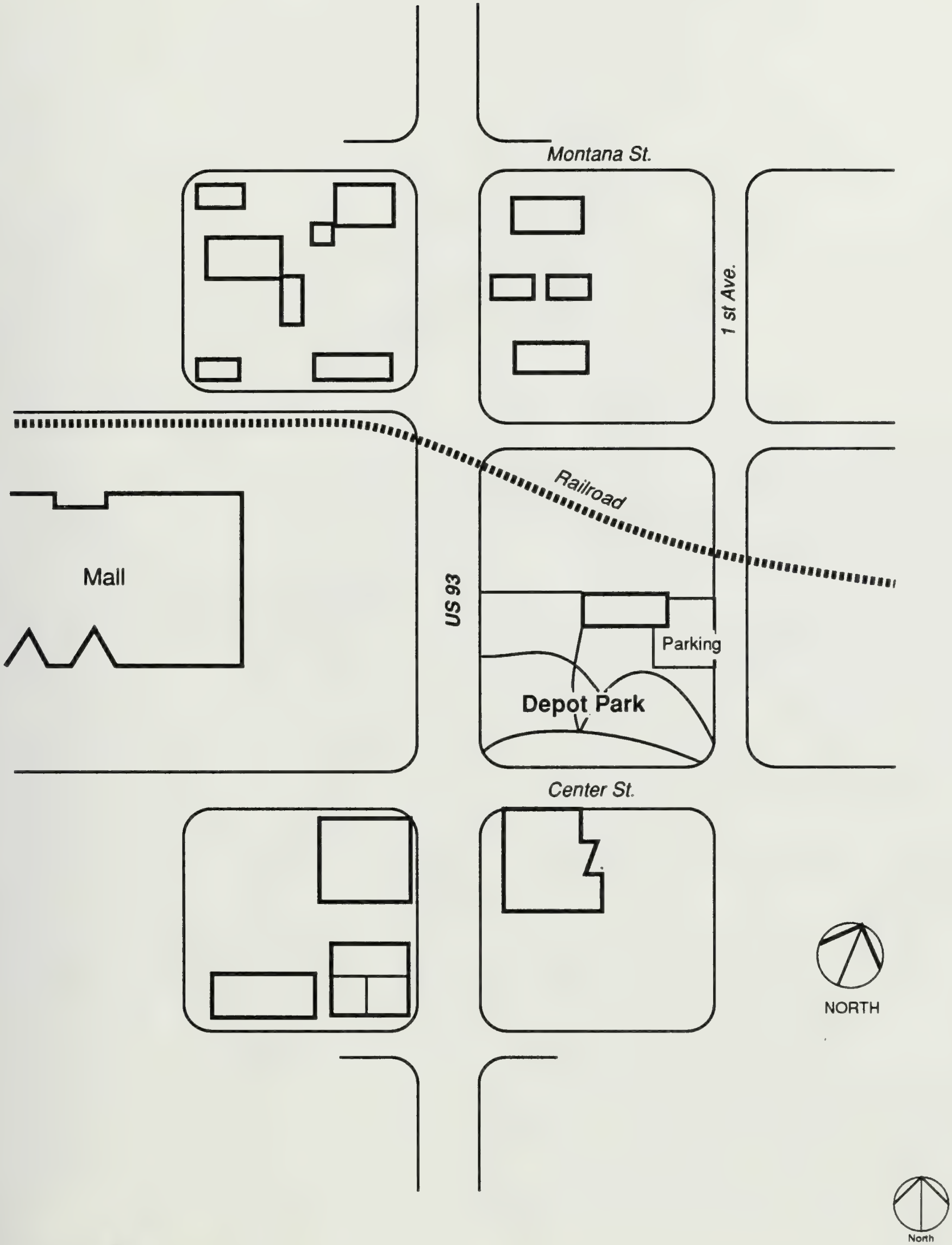

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Figure 3-20
Depot Park

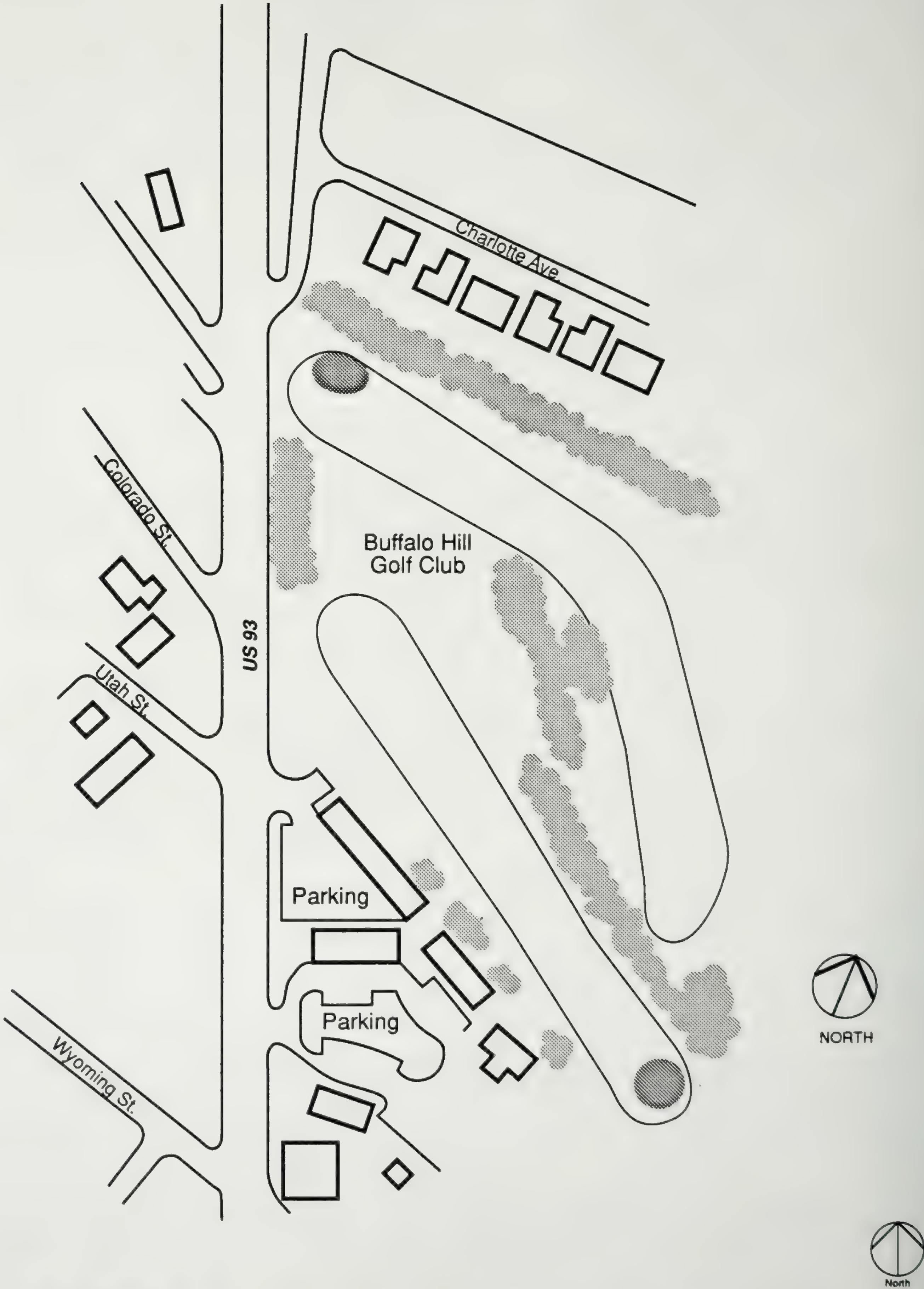

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Figure 3-21
Buffalo Hill Golf Club

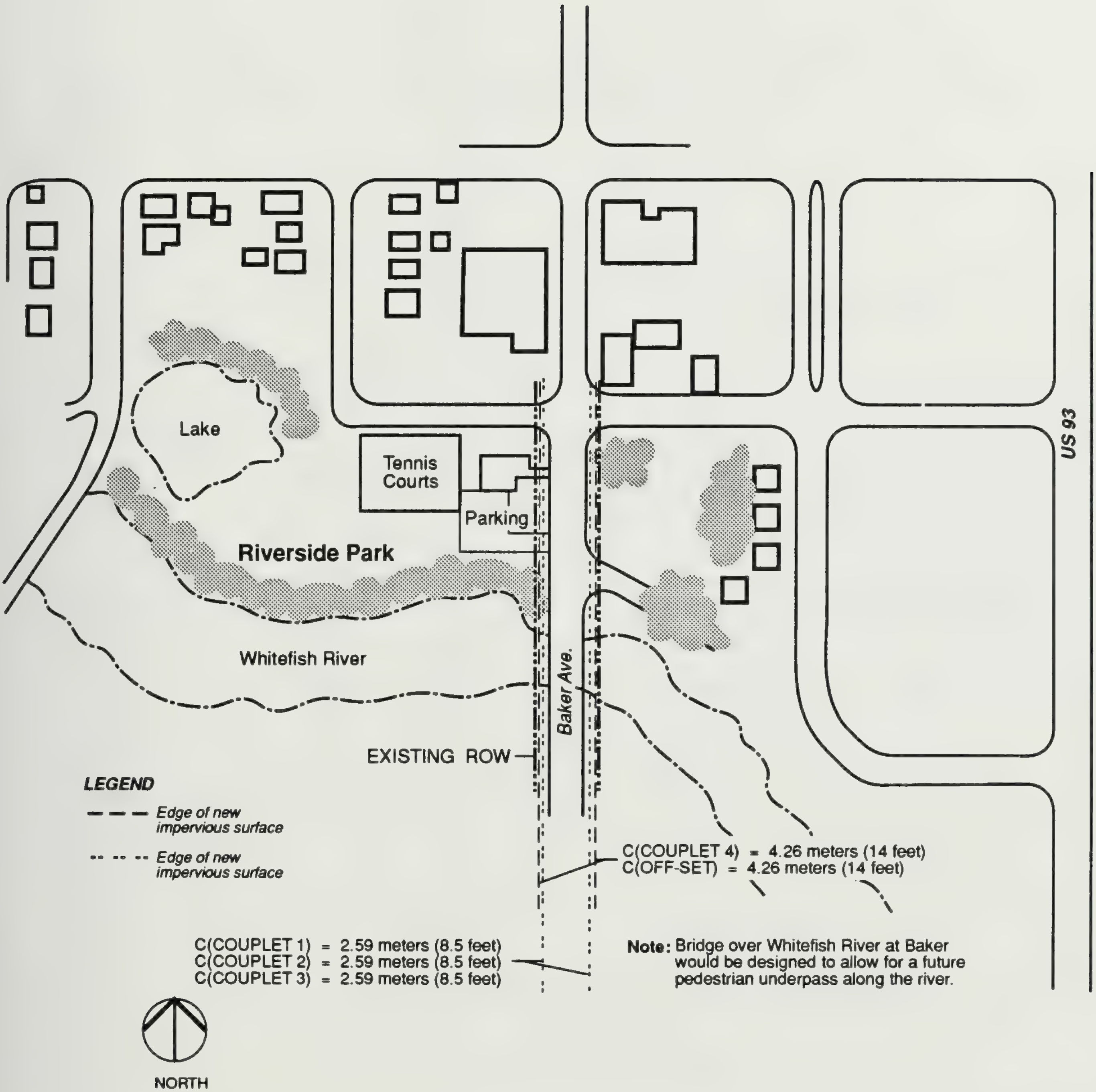

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Figure 3-22
Riverside Park

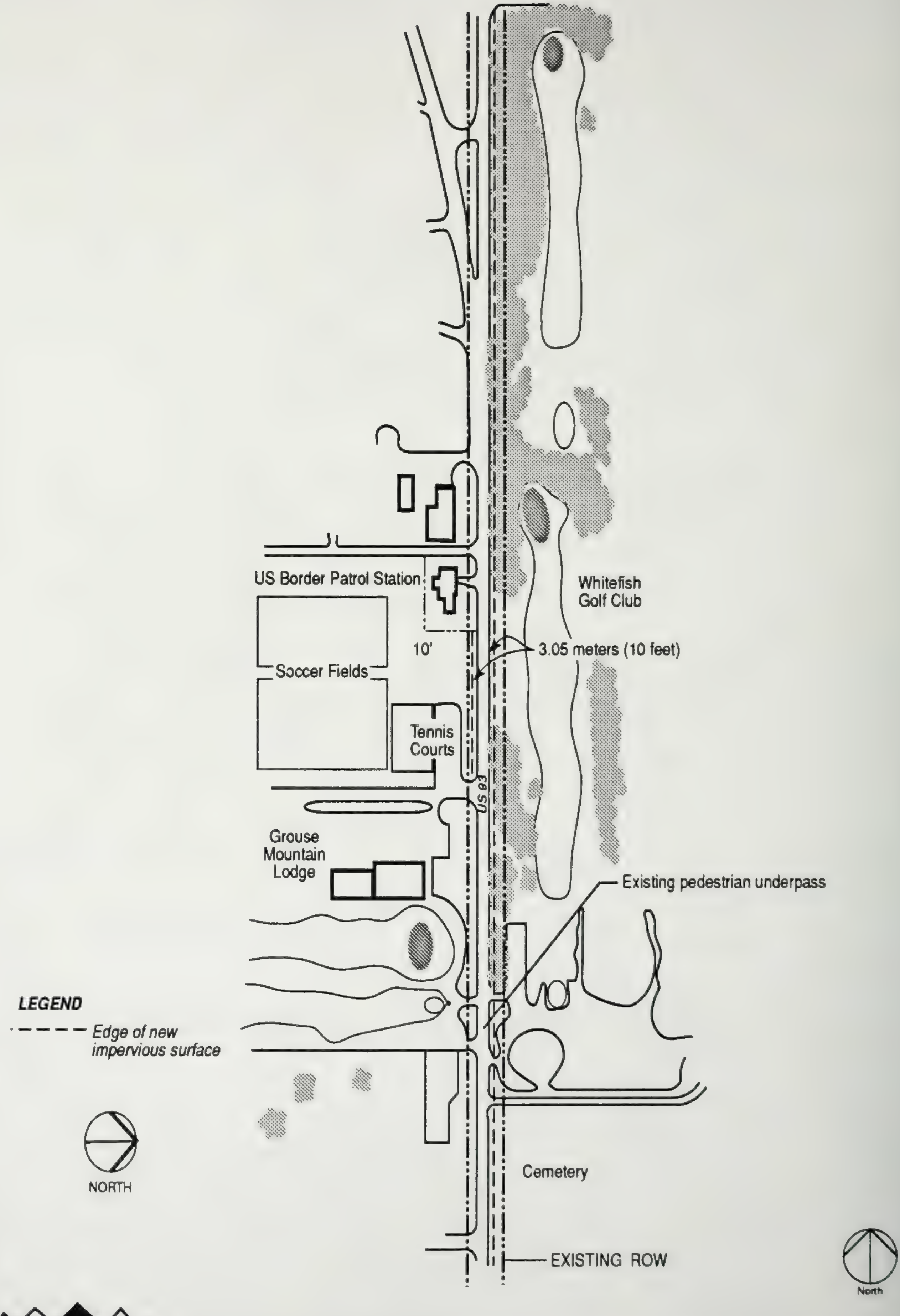

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Figure 3-23
Whitefish Golf Club/Whitefish Tennis & Soccer

Skyles Lake Access

Skyles Lake Access is a State owned sportsman's access to Skyles Lake as part of the larger Stillwater State Forest. The access is 1.54 hectares (3.8 acres) in size and available activities include fishing, hiking and boating. Facilities include an unimproved dirt road connecting US 93 to the waters edge. This water's edge provides informal boat launching facilities. For a detailed layout of the Skyles Lake Access refer to Figure 3-24.

3.16 Hazardous Material Sites

Information regarding the presence of hazardous materials or incidents was requested by file searches from appropriate agencies, listings of current and historic land uses, and the use, storage, and disposal conditions observed from the public right-of-way during field investigations conducted in July and August 1993. Sites of interest are shown in Figure 3-25.

For the purposes of this assessment, hazardous materials are defined as products or wastes regulated by the U.S. Environmental Protection Agency (EPA) or the State of Montana Department of Health and Environmental Sciences (MDHES). These include substances regulated under the Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA or Superfund), the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (ToSCA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), solid waste management, and underground storage tanks (USTs).

In Montana, Federal CERCLA and RCRA programs and site inventories are administered and maintained by the MDHES. The USEPA maintains a National Priority List (NPL) and Non-NPL of sites within the state that have been investigated and documented.

Petroleum hydrocarbons are the primary contaminant of concern identified by assessment of the study area.

A total of 103 sites located within, or adjacent to US 93, and five sites located within, or adjacent to Kalispell Bypass Alternative B, were identified as having documented or potential hazardous material contamination issues. In general, these sites can be characterized as follows: one site has been documented by the MDHES and U.S. EPA for traces of soil contamination; 27 sites were documented by the MDHES as using, storing or generating hazardous materials/wastes (RCRA or UST lists); 58 sites consist of commercial/industrial users observed in the field as having a moderate to high probability of using, storing, or generating hazardous materials/wastes but were not listed by government agencies; and 23 sites are of potential concern due to their past and/or present land uses. Potential hazardous materials sites are listed in Table 3-31.

Site B5 (a small livestock feedlot) is the former location of the North American Oil Refinery which operated in the 1920's. The five acre site was inspected under Superfund in 1988. The soil sample revealed slightly elevated levels of two heavy metals, Lead and Zinc, and traces of Cadmium and Thallium. According to the report, soil covering the entire site could be contaminated by heavy metals and should be avoided or removed. No groundwater contamination is suspected beneath or near the site, and the site appears on the MDHES Non Priority List (NPL).

In 1988, 2.2 liters (ten gallons) of oil was reported spilled on the east edge of US 93 south of Kalispell in front of Site 72 (Swartzenberger's salvage yard). In 1992, an unknown quantity of gasoline was dumped down a storm drain at Site 50 (City Service station). Both incidents were documented by the MDHES and neither incident was considered to cause harmful residual effects upon the population or the environment.

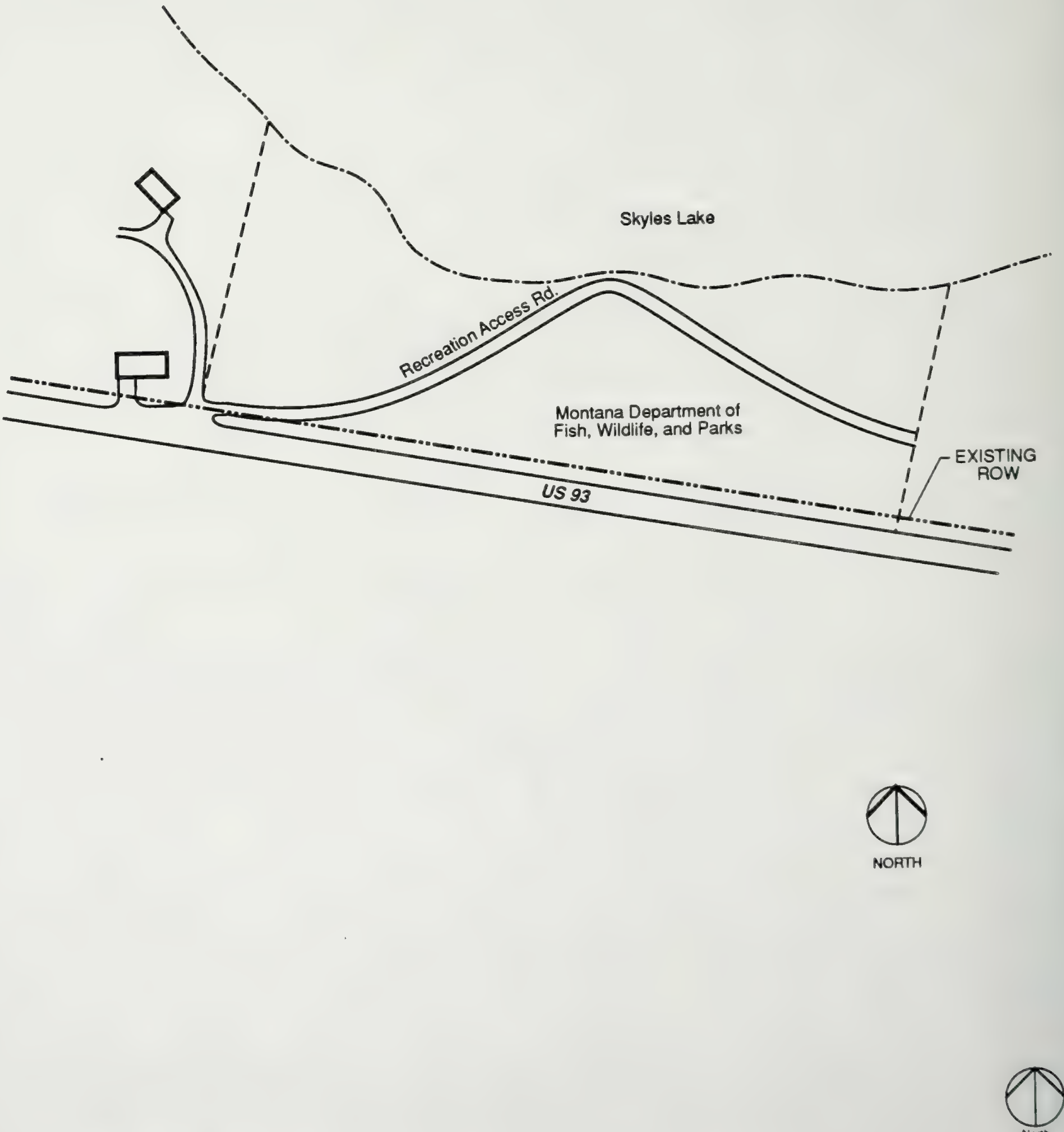

Figure 3-24
Skyles Lake Access

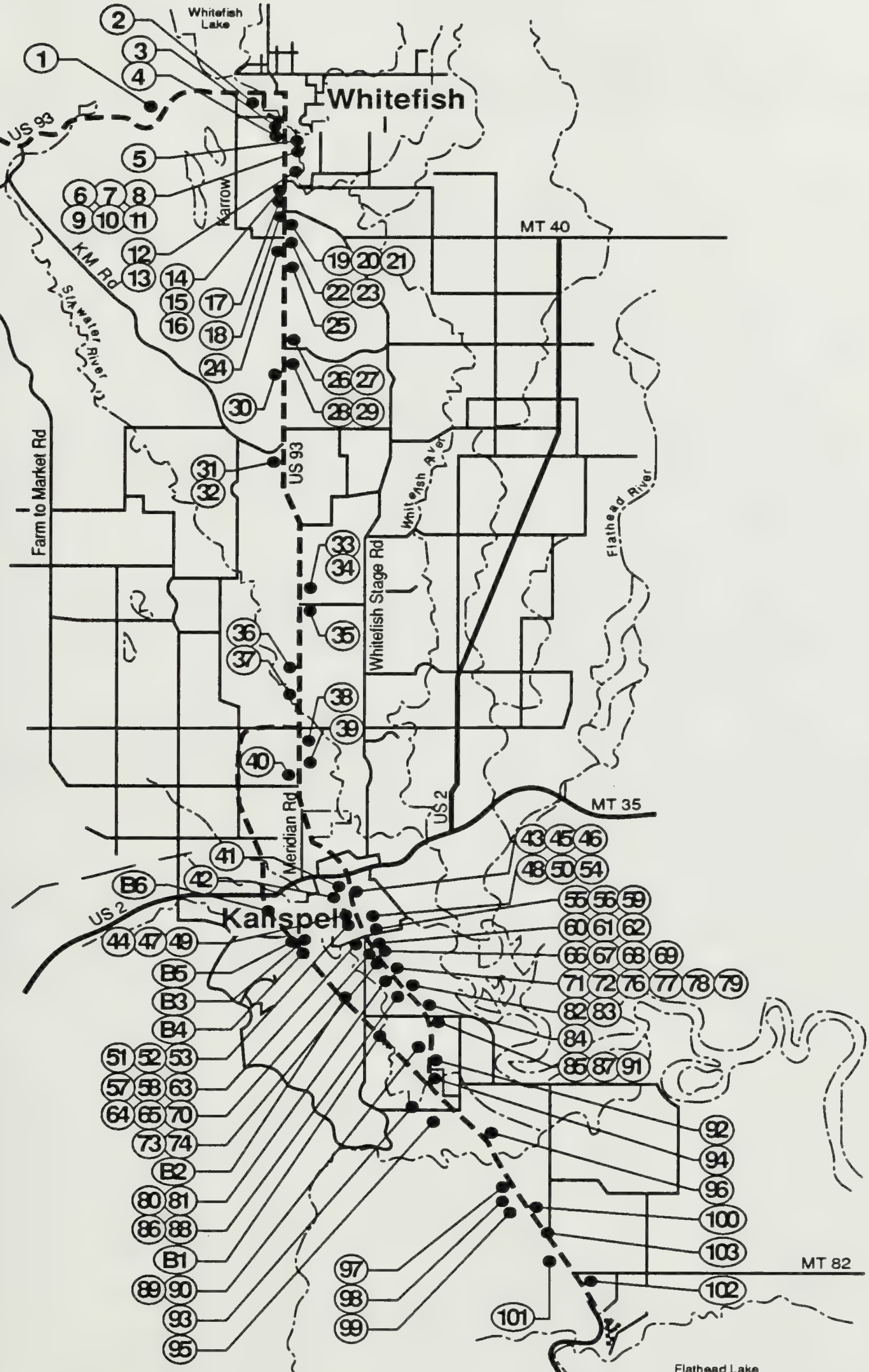

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Figure 3-25

Potential Hazardous Materials Locations

Two of the 27 sites listed by the MDHES as using, storing or generating hazardous materials are on the MDHES Leaking Underground Storage Tank (LUST) list. Site 3 (Town Pump #2) and Site 5 (Ron's Conoco), are located on US 93 south of Whitefish. 26 of the 27 agency-listed sites are of moderate concern due to observed storage and/or disposal of hazardous materials/wastes and past/present land uses. Soil contaminants present at Sites 2, 3, 5, 12, 28, 31, 35, 38, 39, 40, 41, 42, 43, 45, 50, 52, 59, 70, 78, 83, 87, 88, 89, 95, 97 and 99 may include petroleum hydrocarbons, solvents, heavy metals, and chemical compounds. Site 86 (Parker Livestock Supply/Swallow Grain/Valcard Fuel Systems) is of substantial concern due to past and present railroad activity, storage of agricultural products including anhydrous ammonia, petroleum hydrocarbons, and metal equipment.

Five of the 58 sites which were observed as using, storing, or disposing of hazardous materials/wastes are considered to have a high probability of soil contamination. Site B1 (Burlington Northern spur track southwest of Kalispell) is of substantial concern due to its long history and present use as a railroad facility. Possible soil contaminants may include petroleum hydrocarbons, wood preservatives, agricultural products, solvents, and heavy metals. Similar hazardous materials concern can be assessed for Site 103 (abandoned BN track bed) located within the US 93 right-of-way from milepost 104.2 - 108.4.

Site B6 (Montana Forest Products) has a high probability of soil contamination by petroleum hydrocarbons, wood preservatives, solvents, and heavy metals. Site 25 (North Valley Refuse) and Site 91 (93 Wood Products) are of substantial concern due to observed use, storage and disposal of wood products, scrap metal and machinery, petroleum hydrocarbons, and drums.

The remaining 53 sites are of moderate concern due to their past/present land uses. These sites include 39 automobile/machinery supply, repair or salvage businesses, and nine light manufacturing/construction-related businesses. The access drive to the County landfill, Bonneville Power Administration maintenance/storage facility, and the Kalispell Stockyards are also considered to have moderate potential for hazardous materials contamination.

Twenty-three of the 109 sites are considered to have low potential for contamination, but are included on the list based upon past or new land uses. At the time of site inspections, Site 16 (new Western Building Center site) and Site 76 (unknown commercial/industrial site) were undergoing construction. Site 4 (casino) and Site 49 (restaurant) were former automobile service businesses, but each of these sites have been paved or landscaped, mitigating residual soil contamination. The remaining 19 sites either lacked substantial evidence of use, storage and disposal of hazardous materials/waste, or such activity occurred outside the areas of proposed improvements within the study area.

Table 3-31
Potential Hazardous Materials Sites

Site No.	Milepost	Facility Name	Agency list/Contaminants of potential concern	Hazardous Material Threat Potential
1	129.7	Michael's Auto Repair	None/PH,solvents,metals	Moderate
2	128.2	Circle K #706	UST/PH,solvents	Moderate
3	126.9	Whitefish Town Pump #2	LUST,UST/PH,solvents	Moderate
4	126.8	Best Bet Casino (former auto rental)	None/PH, solvents	Low
5	126.8	Ron's Conoco	LUST,UST/PH, solvents	Moderate
6	126.55	Western Building Center	None/metals,chem.,hh. refuse	Low
7	126.5	NAPA Auto Parts	None/solvents,lubes.,metals	Low
8	126.5	Carlson's Alignment	None/PH,solvents,metals,lubes.	Moderate
9	126.5	Northwest Tool Repair	None/metals,lubes	Low
10	126.5	Big Mountain Glass	None/hh. refuse, chem.	Low

Table 3-31
(continued)

Site No.	Milepost	Facility Name	Agency list/Contaminants of potential concern	Hazardous Material Threat Potential
11	126.5	Funshine Car Wash	None/PH,solvents,lubes.	Low
12	126.1	DePratu Ford	RCRA,UST/PH,solvents	Moderate
13	126.0	Car Quest Auto Parts	None/hh. refuse, solvents	Low
14	125.8	Midway Rental & Equipment	None/PH,metals,lubes,solvents	Moderate
15	125.8	All Season Equipment	None/PH,metals,lubes,solvents	Moderate
16	125.6	Western Building Center (new)	None/construction debris	Low
17	125.4	Harold's Auto Repair	None/PH,metals,lubes,solvents	Moderate
18	125.3	Montana Air Systems	None/chemicals	Low
19	125.2	Whitefish Taxidermy	None/chemicals	Low
20	125.1	Hill Bros. Towing	None/PH,metals,lubes,solvents	Moderate
21	125.0	A-1 Towing	None/PH,metals,lubes,solvents	Moderate
22	124.8	Shirno Cabinets	None/wood pres.,hh. refuse	Low
23	124.7	? used appliances	None/metals,chem.,hh. refuse	Low
24	124.4	Glacier Log Homes	None/PH,wood pres.,metals	Moderate
25	124.0	North Valley Refuse	None/metals,chem.,hh. refuse	High
26	123.0	OHS Body Shop	None/PH,metals,lubes,solvents	Moderate
27	122.9	? auto sales	None/PH,metals,lubes,solvents	Moderate
28	122.6	Midway Mini Mart	UST/PH, lubes, solvents	Moderate
29	122.5	Montana Arch & Truss	None/metals,chem.,solvents	Moderate
30	122.1	KMJ Radiator/A Auto Center	None/PH,metals,lubes,solvents	Moderate
31	121.7	Vars (residence)	UST/PH, hh. refuse	Low
32	120.7	Flathead Co. Landfill Access Drive	None/PH,chem.	Moderate
33	118.5	North Wind Center (mult. businesses)	None/hh. refuse	Low
34	118.2	Tuma Inc. used equipment	None/PH,metals,lubes,hh.refus e	Moderate
35	118.0	Hedstrom (residence)	UST/PH,ag. products	Moderate
36	116.9	Sonju's Body Shop	None/PH,metals,lubes,solvents	Moderate
37	116.5	M&T Auto Body	None/PH,metals,lubes,solvents	Moderate
38	115.8	Ole's Country Store #10	UST/PH,lubes,solvents	Moderate
39	115.6	NUPAC	RCRA,UST/PH,metals,chem.	High
40	115.2	Montana Dept. of State Lands	UST/PH,metals,lubes,solvents	Moderate
B1	108.4,NW to s/o Appleway	BNRR Spur Track	None/PH,lubes,wood pres.,metals,ag.products	High
B2	NE corner of Airport Rd./BNRR track	Wisher's Salvage	None/PH,metals,lubes	Moderate
B3	SE corner of Sunnyside Dr./BNRR track	private equipment maintenance garage	None/PH,metals,lubes	Moderate
B4	SW corner of Foy's Lake Rd./BNRR track	salvage business (name unknown)	None/PH,metals,lubes	Moderate
B5	NW corner of Foy's Lake Rd./BNRR track	private agricultural property (small livestock feedlot) former North American Oil Refinery	CERCLIS/metals,PH,ag. products	Moderate
B6	SW corner of BNRR track WYE	Montana Forest Products	None/wood pres.,PH,metals	Moderate
41	111.8	Flathead Co. Justice Center	UST/PH	Low
42	111.6	Scarff's Auto Center	UST/PH,solvents	Low
43	111.6	Withey's Health Foods (former service station)	UST/PH	Low
44	111.5	? art gallery (former maint.shops)	None/PH	Low
45	111.5	Mini Mart	UST/PH,lubes,solvents	Moderate
46	111.4	vacant lot (former car wash)	None/PH,lubes,solvents,refuse	Moderate
47	111.5	Conoco	None/PH,lubes,solvents	Moderate

Table 3-31
(continued)

Site No.	Milepost	Facility Name	Agency list/Contaminants of potential concern	Hazardous Material Threat Potential
48	111.4	? (former auto repair)	None/PH,metals	Moderate
49	111.4	Fred's Restaurant/Diamond Lil's	None/PH	Low
50	111.3	City Service/Exxon	RCRA,UST/PH,lubes,solvents	Moderate
51	111.3	Elks Lodge (former auto repair)	None/PH	Low
52	111.2	MT Army Nat'l Guard (former maintenance shop)	RCRA/PH,metals	Moderate
53	111.1	MT Army Nat'l Guard	None/PH,metals,lubes,solvents	Moderate
54	110.8	Kalispell Marine	None/PH,solvents	Moderate
55	110.7	Flathead Sports	None/PH,solvents	Moderate
56	110.7	Western Auto Repair	None/PH,metals,lubes,solvents	Moderate
57	110.6	Hines Auto Centre	None/PH,solvents	Low
58	110.6	Burton's Warehouse Showroom	None/metals,chem.,hh. refuse	Low
59	110.5	Valley Transfer & Storage	UST/PH,metals,chem.,hh. refuse	Moderate
60	110.5	Color World	None/chemicals,metals	Moderate
61	110.5	Montana Bell RV Sales	None/PH,solvents	Moderate
62	110.4	Harvey's Lil Trucks	None/PH,lubes,solvents	Moderate
63	110.4	Jesco Boat Center (former auto repair)	None/PH,metals,solvents	Moderate
64	110.3	Rich's Saw Sharpening	None/PH,metals	Moderate
65	110.3	Morken's Auto Repair	None/PH,metals,lubes,solvents	Moderate
66	110.3	vacant (former precast concrete)	None/chemicals,metals	Low
67	110.3	Big Sky Carpet & Tile	None/chemicals	Low
68	110.2	Glacier Pre-Cast Concrete	None/chemicals,metals	Low
69	110.2	A-1 Vacuum	None/chemicals,hh. refuse	Low
70	110.2	S & S Canopies/Campers	UST/PH, solvents	Low
71	110.2	Mountain Bag Mfg.	None/chemicals,metals	Low
72	110.1	Swartzenberger's auto repair & salvage yard	None/PH,metals,lubes,hh. refuse	Moderate
73	110.1	R & J Wrecking	None/PH,metals,lubes,hh. refuse	Moderate
74	110.1	CMI Masonry Supply (former auto repair)	None/chemicals,metals	Low
75	109.8	MacDonald's Washer	None/metals,solvents	Low
76	109.3	Mergenthalier Transfer & Storage	None/construction debris	Low
77	109.1	Triple W Equipment	None/PH,metals	Moderate
78	109.0	Townsend Sales/Repair	UST/PH,metals	Moderate
79	109.0	Montana Tractor	None/PH,metals	Moderate
80	109.0	Montana Log Homes	None/PH,metals,wood pres.	Moderate
81	109.0	Treweek Construction	None/metals, hh. refuse	Moderate
82	109.0	JBM Machining (former livestock supply)	None/PH,metals,ag. products	Moderate
83	108.8	Ashley Creek Animal Clinic	UST/PH,metals,chemicals	Moderate
84	108.8	Snow-Line Trees	None/PH,metals,ag. products	Moderate
85	108.5	BPA Maintenance	None/metals,solvents	Moderate
86	108.4	Parker Livestock Supply/Swallow Grain/Valcard Fuel	UST/PH,ag. products,metals,wood pres.	High
87	108.4	Fun Beverage (former livestock supply)	UST/PH,solvents,ag. products,chem	Moderate
88	108.4	Long Machinery	RCRA/PH,metals,solvents	Moderate
89	108.3	Solberg Trucking	UST/PH,metals,solvents	Moderate
90	108.2	NW Diversified Trucks	None/PH,metals,solvents	Moderate

Table 3-31
(continued)

Site No.	Milepost	Facility Name	Agency list/Contaminants of potential concern	Hazardous Material Threat Potential
91	107.9	93 Wood Products	None/PH,metals,wood pres.,chemicals,lubes	High
92	107.3	Kalispell Livestock Auction	None/PH,ag. products	Moderate
93	107.2	Executive Auto Center	None/PH,solvents	Moderate
94	107.2	private truck operator	None/PH,metals,lubes,solvents	Moderate
95	107.0	Liberty Drilling	UST/PH,metals,solvents	Moderate
96	106.7	multiple antique dealers	None/metals, solvents	Low
97	106.6	multiple manufacturers	RCRA/PH,metals,chem., solvents,wood pres.	Moderate
98	106.5	Drift Exploration Drilling	None/PH,metals,solvents	Moderate
99	106.4	Howard's Furniture	RCRA/PH,metals,wood pres.	Moderate
100	106.2	Coca-Cola Distribution	None/PH,metals,chemicals	Moderate
101	104.3	vacant Speedy Mart	None/PH	Moderate
102	104.3	Lee Marine	None/PH,metals,solvents	Moderate
103	104.2-108.4	abandoned BNRR track bed	None/PH,metals,wood pres.	High

Legend: PH = petroleum hydrocarbons
UST = underground storage tank
LUST = leaking underground storage tank
RCRA = Resource Conservation and Recovery Act
CERCLIS = Comprehensive Emergency Response, Compensation and Liability Information System

3.17 Visual Quality

3.17.1 Introduction

The Flathead Valley is mostly rural in character but the communities tend to generate a more downtown character with residential, commercial and industrial development. The Flathead Valley is bordered by the Swan Mountain range on the east, the Whitefish Range on the north and the Salish Mountain Range on the west. These mountain ranges are all within the Flathead National Forest jurisdiction. The valley bottom can be considered flat to rolling and is approximately 19.31 to 24.14 kilometers (12 to 15 miles) wide. Where not developed as part of the local communities, this flat to rolling valley bottom is mostly divided into various sized agricultural holdings.

This scenic corridor is important on a national basis because it serves as the western entrance to the Glacier National Park. The Park is north and east of the valley bottom but tourist traffic must travel the length of the corridor to reach this scenic resource.

3.17.2 Inventory of Corridor

3.17.2.1 Landscape Units

Because of the nature of the Flathead Valley, foreground and background landscape units predominate. Landscape units are those visible areas of distinct similar visual character which contain similar landscape elements that are different than other distinct areas. These landscape units are mapped in Figure 3-26.

Background landscape units are all within the Flathead National Forest with mountain peaks ranging from 1,372 to over 1,982 meters (4,500 feet to over 6,500 feet). Background landscape units include:

- **Swan Mountain Range**. This range lies to the east of the Flathead Valley and is a dominant background feature of most views from the roadway. This is a steep range with seasonal white capped peaks and forested mountain sides.

- **Whitefish Range**. This range lies to the north of the Valley and features rounded mountain tops with the Big Mountain Ski Resort a prominent feature visible from the northern part of the corridor.

- **Salish Mountain Range**. This range lies to the west of the Valley and is also a dominant background feature of views from the roadway. Visible from most of the roadway corridor the Salish Mountain Range features rounded mountain groupings which are mostly forested. Some seasonal white capped peaks are visible at a distance.

Foreground landscape units are those immediately visible throughout the valley. These areas describe the local character of the valley. Foreground landscape units in the Flathead Valley include:

- **Agricultural**. Most of the northern Flathead Valley is of a rural character with open flat to rolling terrain, pastures and crop land visible. This landscape unit is mostly open and views of the background are most visible across the agricultural land.

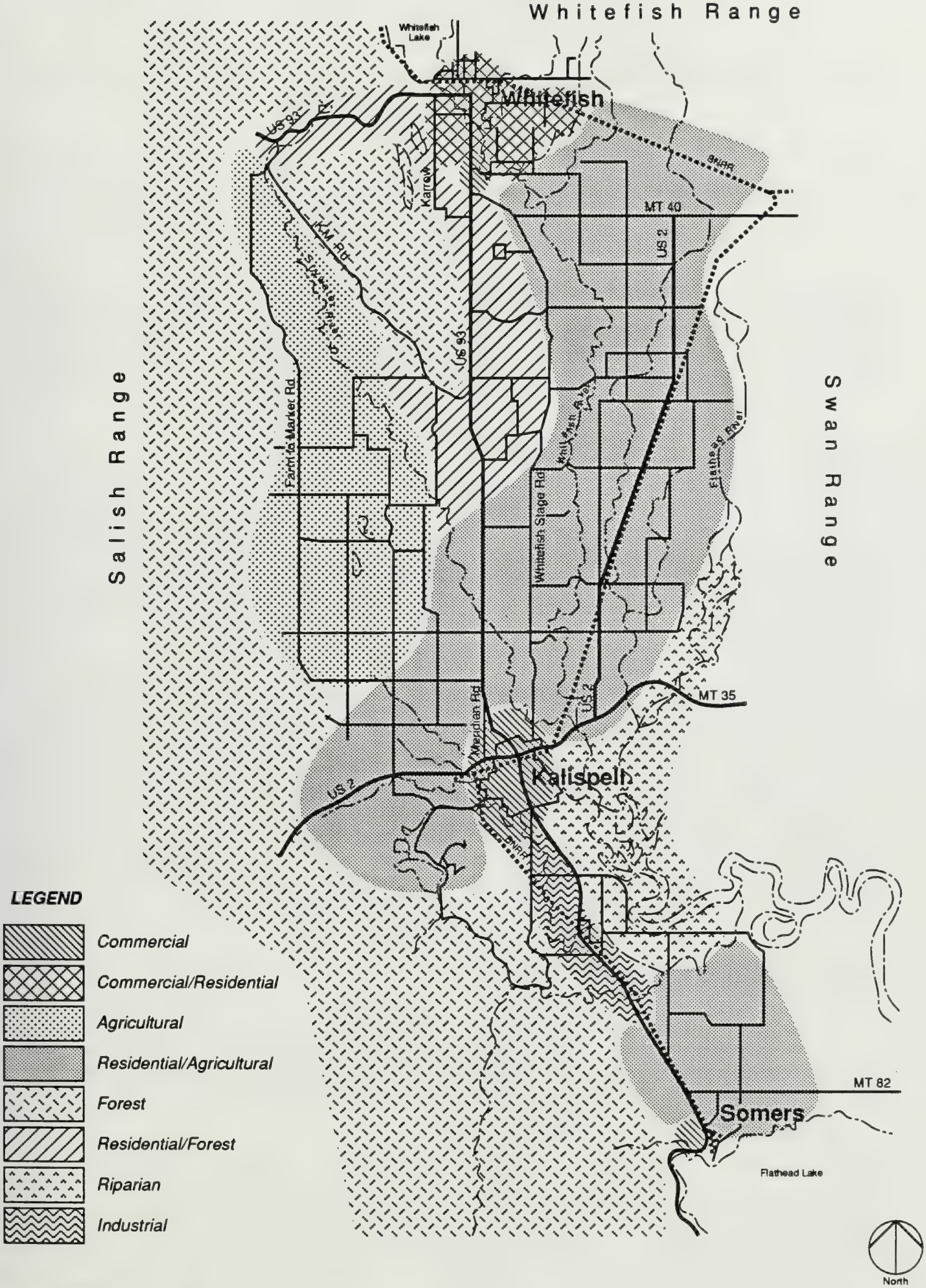
- **Riparian**. Throughout the valley bottom small creeks and rivers are bordered by deciduous vegetation and add to the overall character of the valley bottom. This landscape unit also helps define the river character of the valley even though the river is not visible.

- **Forest**. North of Kalispell the terrain becomes more rolling and agriculture is unable to utilize the sloping hill side land. This area is mostly forested with pine, spruce, larch and fir trees. Some of the forested land contains residential development but the overall character is more forest than residential.

- **Residential**. Areas near Whitefish and Kalispell contain housing developments and can be described as residential in nature. Some of this character is also visible in areas scattered throughout the valley where development is underway. Residential land units would be characterized by the homes and associated landscaping and streets.

- **Commercial**. Downtown areas of Kalispell, Whitefish and Somers contain a concentrated commercial landscape unit character. Areas to the outside of these communities also can exhibit this landscape character with street parking, retail businesses, store signs, and parking lots.

- **Industrial**. Characterized by larger buildings, outlot storage, storage structures, equipment handling facilities and large truck access drives. These areas are becoming more visible along US 93. Most visible industrial areas are south of Kalispell and along US2.



Somers to Whitefish Environmental Impact Statement

Figure 3-26

Landscape Units

3.17.2.2 Inventory of Visual Resource

Landscape units visible from the roadway corridor were mapped. Throughout the corridor background views dominate. Importantly, these background views are supported and often framed by the lower foreground fields, hills and vegetation.

The foreground landscape changes on a seasonal basis with the changing of the agriculture field crops and lowland vegetation. Autumn colors are provided along river and creek channels and in the local communities throughout the valley where maple, cottonwood, larch and willow which provide color. Local fog conditions are frequent and present another element to the visible landscape. Winter snow is seen on the mountain peaks well into summer providing a sharp contrast on the background mountain ranges.

3.17.2.3 Corridor Segment Descriptions

3.17.2.3.1 Somers to Kalispell

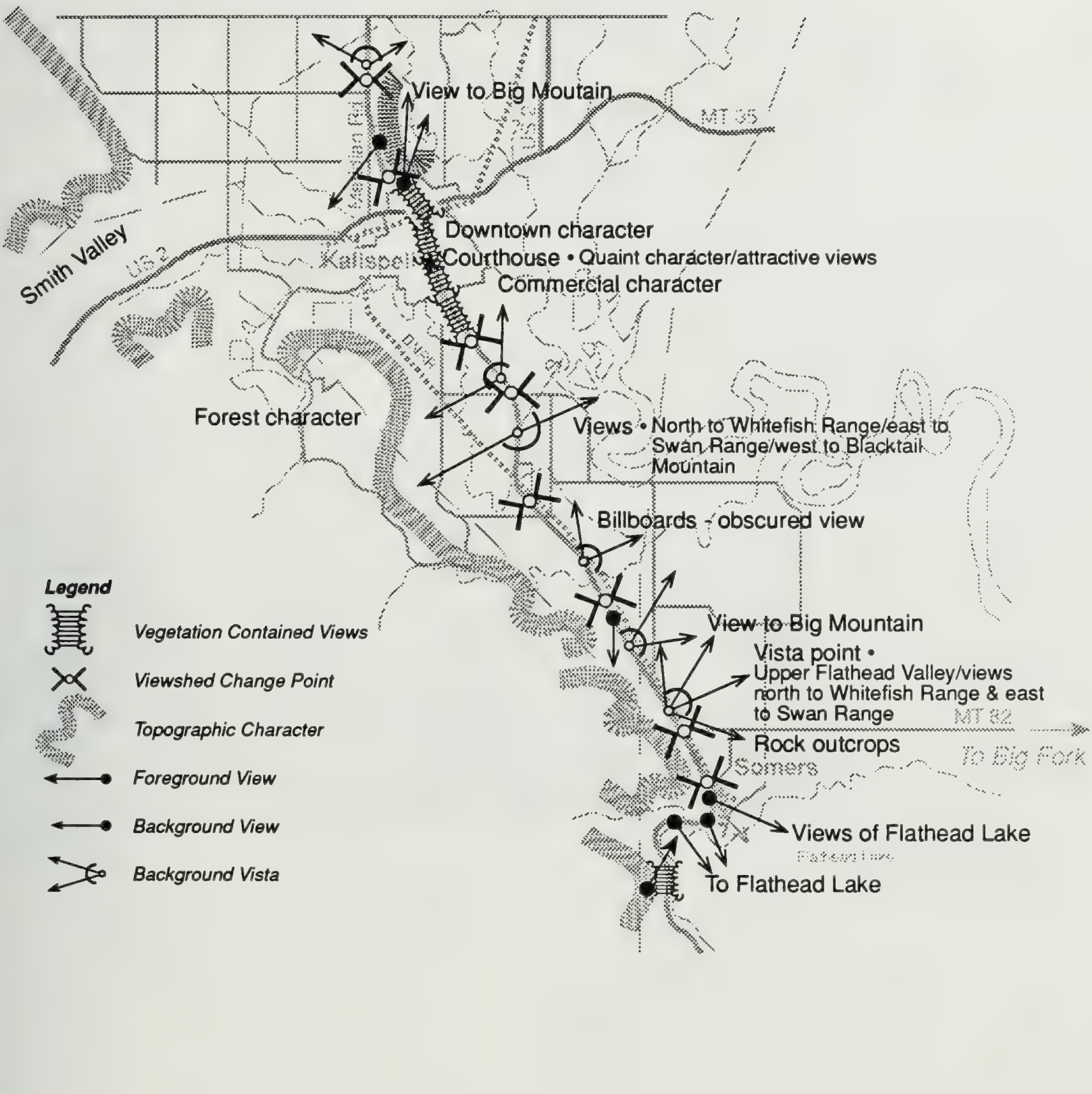
This southern segment of the corridor traverses open terrain at the eastern edge of the hill slopes. Just north of Somers views are expansive for south bound motorists. Crossings at Ashley Creek and other small drainages offer foreground riparian vegetation and open water views. Closer to Kalispell, views are restricted to foreground billboards and industrial development. The roadway is set lower in the terrain and these foreground views dominate (Figure 3-27). Several older farms are visible along side of the highway.

Within the southern Kalispell entrance, motorist views of nearby commercial, industrial and residential development dominate. Due to the scattered and dissimilar nature of this development no unique community image is formed until one enters the older development north of 11th Avenue. This historic district north and south of the Court House presents the strongest character image of Kalispell with boulevard trees, roadside landscaping and narrower streets. In downtown Kalispell buildings are at the edge of the walk and although few trees are present, the downtown image is strongly commercial. Local traffic, street side parking and older buildings add to that character. The downtown depot is located at the rail crossing at Main Street. This historic building and surrounding park land provide a downtown focus for Kalispell. Newer development is obvious with large parking lots and greater building set backs. Downtown buildings are of mostly brick or quarry rock construction. Newer buildings present stucco, glass or wood frontages (see Figure 3-28).

3.17.2.3.2 Kalispell to Whitefish

North of Kalispell US 93 crosses through residential and commercial development which is separated from the roadway by topography and local streets. The highway does have a median but it is narrow to support plantings. Nearby development is well landscaped and northbound motorists do have a scenic foreground of green lawns and plantings. Southbound motorists entering Kalispell are offered a panoramic view of the City and the surrounding forested mountains (see Figure 3-29).

North of the Kalispell city limits the terrain opens up and background views of the surrounding mountain ranges are possible. Along this segment a striking shift occurs from open agricultural/residential land to an enclosed roadside within a forest. This shift occurs around mile post 119 at the Fenders restaurant location. Southbound traffic leaves the forested segment with expansive views to the south, east and west. Northbound traffic enters the forested foreground segment and only has limited background views to the north and east. These northbound views are further focused down the straight alignment of US 93 toward Big Mountain north of Whitefish.



Somers to Whitefish
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Figure 3-27
Visual Analysis - US 93 Corridor

Existing: MP 106.8 • looking south

Existing: Downtown Kalispell

North

Somers to Whitefish Environmental Impact Statement

Figure 3-29
Visual Analysis - US 93 Corridor

At Whitefish, roadside character changes from a forested residential character to one with commercial development adjacent to the roadway and background views beyond that of Big Mountain and the peaks of Glacier National Park. For the most part, this commercial development is limited and has some landscaping along the roadway. At the south entrance to Whitefish, the roadway crosses the Whitefish River and again the riparian vegetation dominates the foreground. Downtown Whitefish also has building frontages at the sidewalk but not as well defined as downtown Kalispell. The Whitefish School at Second and Spokane is a dominant feature adjacent to US 93 within Whitefish. Future development just north of this school is planned which will further define the character of downtown Whitefish. Downtown buildings are of wood construction and newer businesses include parking lots along the street.

3.17.2.3.3 Whitefish West

The northern part of downtown Whitefish features another crossing of the Whitefish River, adjacent golf course and open residential development. Once outside of this development, forested mountain sides dominate the foreground and views do not open up until Spencer Lake near the Twin Bridge Road intersection. Roadsides are typically steep mountainous terrain but some openings to small meadows are present. True background views are not available to the motorist for another couple of miles north of the Spencer Lake area (see Figure 3-30).

3.17.2.3.4 Viewer Groups

Viewers of the landscape units described include local and non-local motorists and residents alongside of the roadway. Local motorists have the opportunity to see the valley and surrounding mountain ranges change with seasonal variety. Non-local or tourist visitors to the valley see the mountains and valley as it presents itself during their visit.

The importance of visual quality has been identified at a number of public meetings for the US 93 project. A quality scenic highway was seen as a way to encourage community centered growth, allow development and promote the pleasure of driving between their communities. Additionally, local landscape character is an important quality of living in the Flathead Valley and is the attraction which forms the basis for local tourist industries. With Glacier National Park just northeast of this corridor and the variety of recreation opportunities in the area, tourist traffic is seen as an important aspect to the local economy. The unique character and visual quality of the Flathead Valley are generally felt to be a primary reason that tourists travel through this corridor.

From residential neighborhoods views of the existing two lane roadway are limited due to the lower density of local developments, the size of the existing roadway, and the forested nature of much of the roadside.

3.17.3 Analysis of Visual Resource

3.17.3.1 Visual Quality of the Landscape

Generally the character of this valley can be described as low lying agricultural and residential development surrounded by mountain ranges and forest land. Driving the existing US 93 corridor offers the motorist a range of views which either enhance the character of the valley bottom or tend to distract from the panoramic scenic quality that exists today (see Figure 3-31).

Existing: South Entrance to Whitefish

Existing: Roadway near Spencer Lake

North

Somers to Whitefish
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Figure 3-30
Existing Views

Somers to Whitefish
Environmental Impact Statement

Figure 3-31
Photos of Area

Historically, the valley bottom has enjoyed undisturbed views of the surrounding mountains but this has changed during recent years. Billboard advertising and industrial development at the roadside block many of the background views previously possible and with major changes in the foreground the visual character of the valley is no longer dependent on the background mountain ranges. This development represents the most recent change to the US 93 roadside landscape with former tree lined city entries giving way to strip shops, gas stations and hotels with multiple driveways and parking lots extending up to the roadside.

Other changes are also occurring in the valley bottom. Agricultural land is being converted to residential development. Open fields are being replaced by the homes, landscaping and streets typical of most neighborhoods. These changes are most apparent to local residents. Historic views and landscape character still exist and dominate but concern has been expressed that new development and construction could further change the roadside character of US 93.

As part of the **recently completed** Flathead County Master Plan update, a survey was conducted to determine resident's opinions about existing visual quality and what the appropriate level of change might be in different areas. Protecting scenic areas (or areas with high visual quality) was identified as a priority by 61 percent of the respondents. Landscapes that were identified as having high visual quality were:

- Edges of water bodies
- Mountain slopes
- Fields and meadows
- Forested areas

Correspondingly, the following landscapes were felt to be areas where visual improvements were recommended:

- Industrial areas
- Extraction areas
- Strip commercial developments
- Urban and semi-urban areas

3.17.3.2 Visual Resources of Cultural Significance

Between Somers and Kalispell several historic farmsteads are located just west of US 93. The structures appear stable and some are in use. These farmsteads date back to the late 1800's and are of some local historic significance. This roadway segment also contains a historic rail corridor which has been identified as a location for a historic marker to identify the location of an early 1900's rail spur built to aid the local timber industry.

In Kalispell the Court House Historic District is of major local importance and characterizes the early nature of this City. Other Main Street retail buildings and the old train depot are important structures, adding to the historic character of Kalispell.

In downtown Whitefish some of the downtown buildings are of historic importance which present the character of the community. The Whitefish High School and depot are off the highway but serve to strengthen the character of the community. A Frank Lloyd Wright office building is also in Whitefish approximately 2 blocks from US 93.

Chapter 4
Environmental Consequen

Chapter Four

Environmental Consequences

Chapter 4.0 Environmental Consequences

Changes in text between this document and the Draft EIS are in bold and underlined.

This chapter describes the direct and indirect impacts that will be expected to occur as a result of the alternatives described in Chapter Two. Mitigation measures are also identified.

Alternatives which are evaluated in this chapter include:

Segment	Alternatives Being Considered
1. Somers to Kalispell	No-Build, A(MEDIAN), A(TURN-LANE), A(COMBO)
2. Kalispell Area	No-Build, A*, A* plus B(MEDIAN), A* plus B(TURN-LANE)
3. Kalispell to Whitefish	No-Build, A(MEDIAN), A(TURN-LANE), A(COMBO)
4. Whitefish Area	No-Build, A(FOUR-LANE), C(OFF-SET), C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)
5. Baker to Karrow and West of Whitefish	No-Build, A*
6. Karrow Avenue to MP 129	No-Build, A(MEDIAN), A(TURN-LANE)

**Alternative A in Kalispell and Whitefish is a unique cross-section, as described in Section 2.4.2.*

These alternatives are described in detail in Section 2.4.2. Aerial photos illustrating **the preferred alternative** are included in Appendix A.

Alternative A(COMBO) is the preferred alternative. It varies slightly from the A(COMBO) alternative which was evaluated in the DEIS.

4.1 Transportation

Existing transportation conditions are described in Chapter One (Purpose and Need) and in Section 3.5.

4.1.1 Future Traffic Projections

4.1.1.1 Methodology

Future traffic projections for the year 2015 were developed using a transportation modeling software program , QRS II. **The Year 2015 was chosen as the future design year to represent approximately 20 years from beginning of construction**. This analysis includes the incorporation of future land use scenarios (projected population and employment), existing and committed roadways, and the traffic characteristics of each roadway (capacity, running speed etc.). **The model also used parameters that were developed from the origin/destination data that were collected for the study area**. An increase in traffic volumes will

occur with all alternatives, including the No-Build Alternative. Refer to Figures 4-1, 4-2 and 4-3 for the projected traffic volumes for **the preferred alternative**

4.1.1.2 Results

The projected traffic volumes are evaluated to determine the ability of each alternative to effectively move traffic along the corridor and to balance the ease of entrance to and exit from the roadway facility. Procedures utilized to evaluate the effectiveness of each alternative are outlined in the *Highway Capacity Manual* (NCHRP Special Report 209). The procedures and methodologies outlined in the manual reflect the wide range of empirical research within North America.

Traffic projections for the No-Build Alternative and the Alternative A alternative show an increase of approximately 7,400 vpd from the existing condition (between Somers and Kalispell) to 10,800 vpd (just north of Kalispell). The largest increase in traffic is anticipated on US 93 just north of MT 40 in Whitefish of approximately 12,000 vpd. This growth in traffic represents approximately a 50 percent increase in traffic over the next 20 years. Minimal growth in traffic is projected west of Whitefish.

Common to all design alternatives is the assumption that improvements to US 93 will attract trips to the roadway that otherwise use local alternative routes. Improvement Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) indicate an additional growth over the "No-Build Alternative" of traffic in the year 2015 ranging from 2,500 vpd to 3,000 vpd between Kalispell and Whitefish.

Alternative B(MEDIAN) or B(TURN-LANE) relieves between 8,400 vpd and 12,100 vpd from US 93 through downtown Kalispell. In addition, Alternative B(MEDIAN) or B(TURN-LANE) will also provide local relief by providing an additional roadway to carry between 2,300 vpd to 7,600 vpd of local trips, and reducing approximately 5,100 vpd through the intersection of Main/Idaho, the most congested intersection within the study area.

Impacts within Whitefish show a substantially higher additional growth over the No-Build Alternative ranging from 1,000 vpd (along 2nd Street) to 5,300 vpd (just north of MT 40). This additional growth is due to traffic diverting back to US 93 from the local street network. Committed improvements to the extension of Baker Street south to Columbia Street will result in increasing traffic volume on Baker Street through Whitefish. With no further capacity improvements (No-Build Alternative), projected traffic volumes on Spokane are not anticipated to increase as substantially as on Baker, as traffic demand balances with available north/south capacity provided by the two corridors. This balancing will be especially evident under Whitefish Alternatives C(OFF-SET) or C. Sub-alternatives to Alternative C will result in traffic projection differences on the southern termini roadways, with greater volume on Baker at US 93 under sub-alternative C(COUPLET-1), on Columbia under sub-alternative C(COUPLET-2) and C(COUPLET-4), and on the new segment of 7th between Spokane and Baker under sub-alternative C(COUPLET-2) and C(COUPLET-3).

4.1.1.3 Level of Service Analysis

Analysis was conducted applying the traffic projections to each of the alternatives to determine how the traffic will operate. Descriptors of this traffic operations are called levels of service. The concept of level of service is a qualitative measure describing the anticipated operational conditions within the traffic stream. The level of service defines conditions in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety.

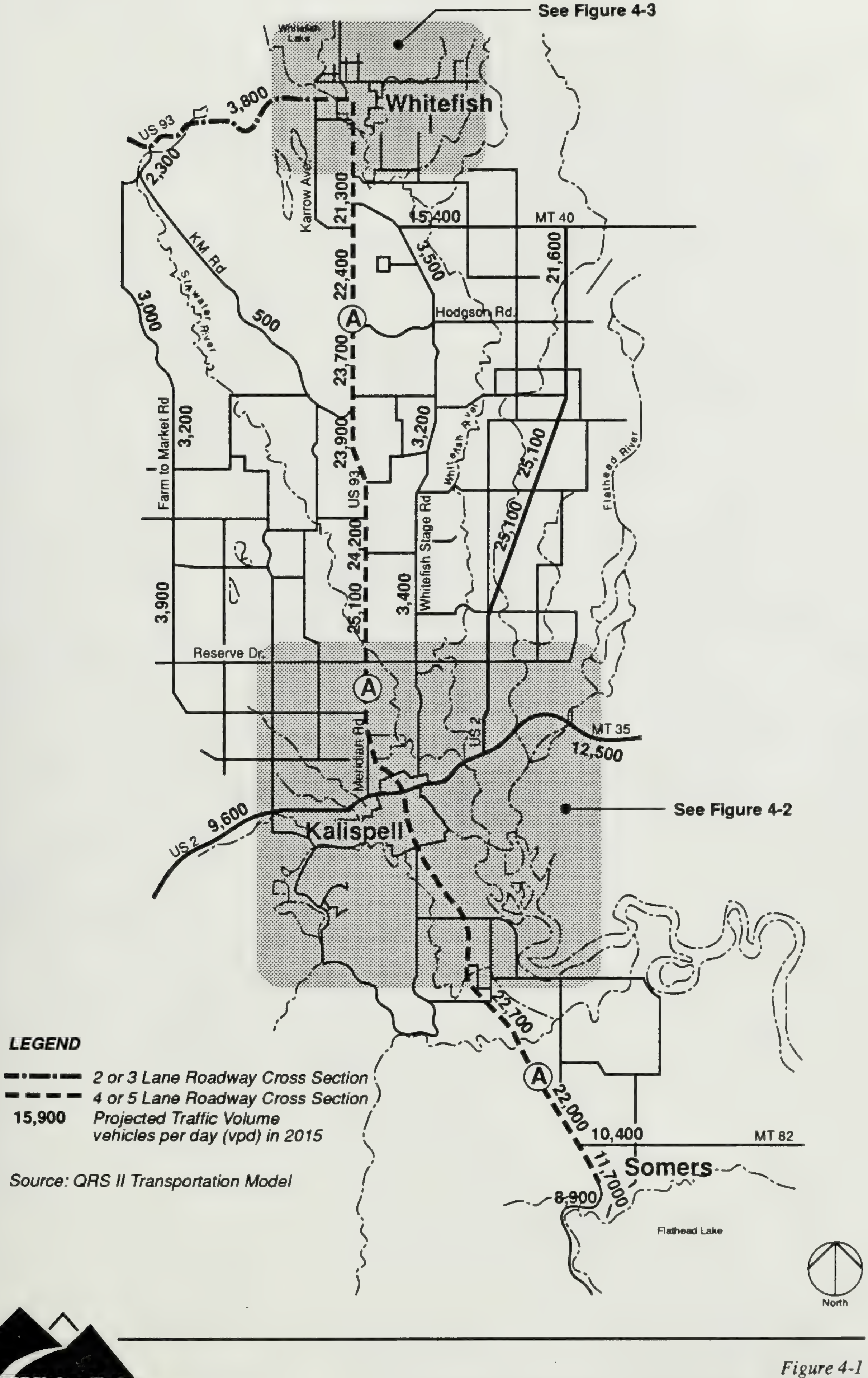

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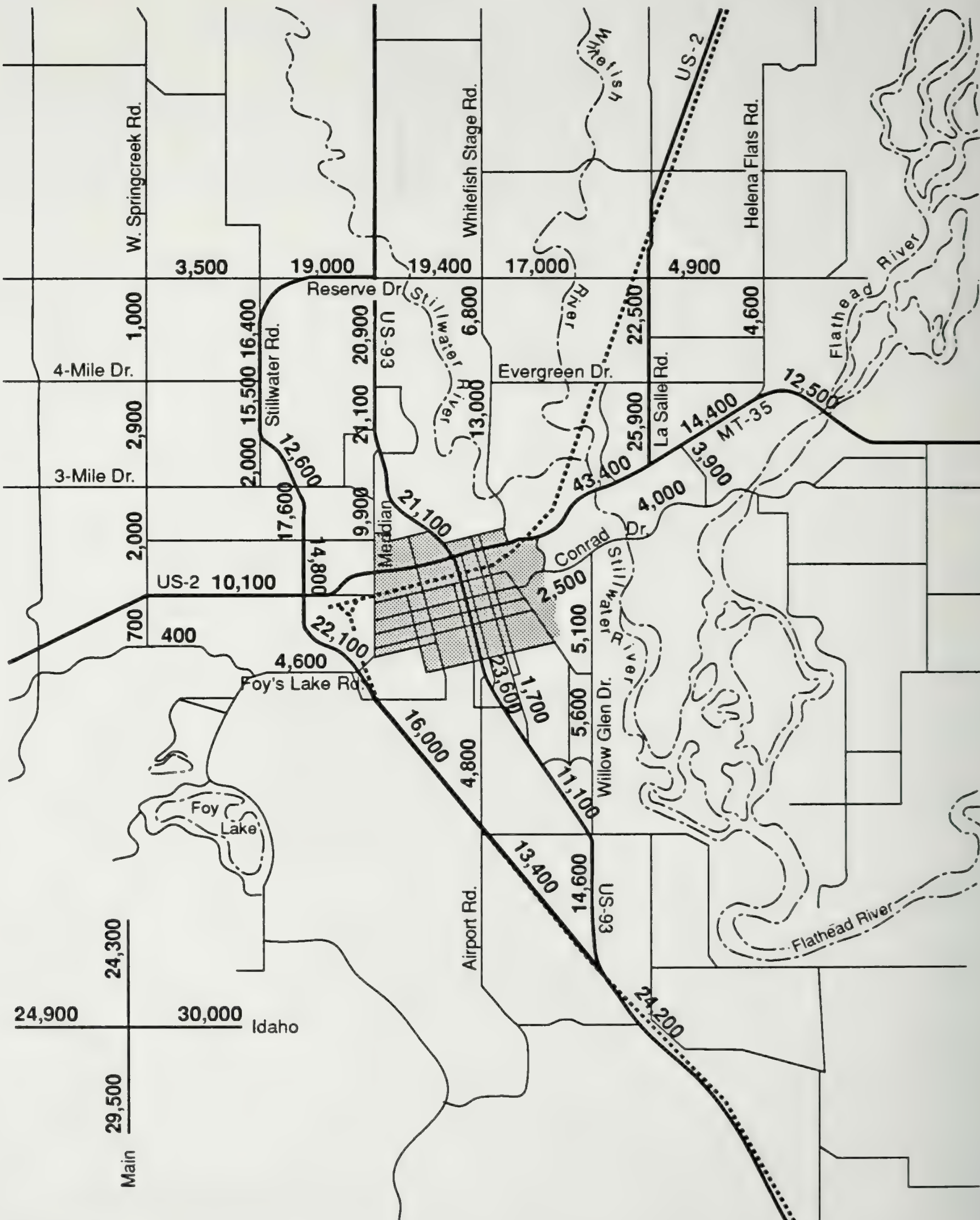
Figure 4-1

2015 Alternatives A(MEDIAN), A(TURN-LANE), A(COMBO)
Summer Daily Traffic Volumes



LEGEND

15,900 *Projected Traffic Volume vehicles per day (vpd)*

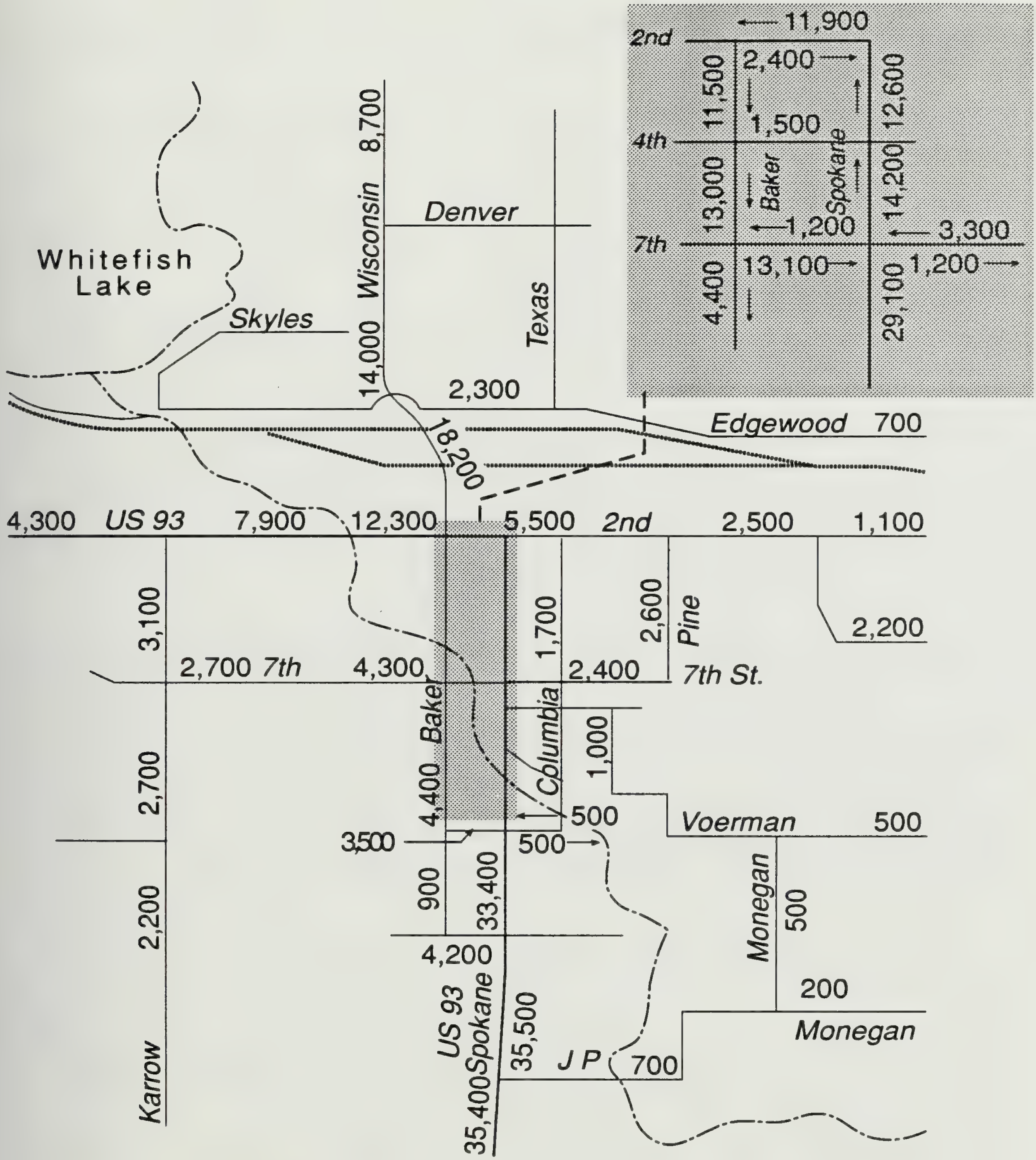
Source: QRS II Transportation Model

North

Somers to Whitefish
Environmental Impact Statement

Figure 4-2

2015 Kalispell Summer Daily Traffic Volumes with Bypass



Somers to Whitefish
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Figure 4-3

2015 Whitefish Alternative C(COUPLET-3) with 7th Street
Spokane to Kalispell • Summer Daily Traffic Volumes

Congestion is characterized by slower than desired travel speed, increased and unpredictable travel times, increased accident frequencies, erratic stop and go, increased vehicle operating costs and other undesirable conditions resulting in user dissatisfaction (source: *Traffic Engineering Handbook*, ITE, 6th Edition).

The No-Build Alternative is expected to operate in the Year 2015 at a Level of Service E and F, which is considerably more congested than the existing LOS D and E operations condition. Fewer gaps will be available for additional traffic to enter or exit the highway, particularly for left turns. This congestion is due to the increase in traffic projected by the year 2015.

Common to all the build alternatives is the improvement in traffic flow. The additional lanes will provide opportunities to pass slower moving vehicles, reducing driver frustration which in turn reduces certain accident potentials, and removes left turning vehicles from the through traveled lanes by providing separate turn bays at intersections. Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) through traffic operations are projected to operate at Level of Service B for the southern rural segments and Level of Service C for the northern rural segments **in the Year 2015. Over time (beyond 2015), the A(MEDIAN) alternative will likely operate at a higher level-of-service than the A(TURN-LANE) alternative. Left-turning vehicles will continue to find it difficult to enter the highway at unsignalized intersections, although additional signals will create some gaps in traffic. Unsignalized intersections will operate at LOS E or F, based primarily on increased volume and increased number of lanes.**

Signalized intersections on Main Street through the City of Kalispell will operate generally in the range of Level of Service B to Level of Service C, assuming Alternative B is in place (which diverts approximately 9,000 through-trips from US 93). The Main Street and Idaho intersection, constrained by abutting land uses and high cross street demand, will continue to operate at capacity (LOS E). Without Alternative B in place, the downtown area will operate between Level of Service D and Level of Service E with the exception of the intersection of Main Street and Idaho Street which will operate at Level of Service F.

Table 4-1 illustrates future operations for major intersections in the study area, assuming the intersection layouts illustrated in Appendix A. This analysis is documented in a separate report: *Technical Memorandum: Major Intersection Analysis*, Carter & Burgess, June 1994.

Table 4-1
Projected Year 2015 Major Intersection Operational Analyses

Intersection	Capacity Level	Approximate LOS (Preferred Alt.)	LOS (No-Build Alt.)
MT 82/US 93	Under	C	--
South Bypass Intersection/US 93	Under	A	--
Kalispell Bypass/US 2	Under	C	--
Reserve Drive/US 93	Under	C	F
MT 40/US 93	Under	B	--
18th Street/US 93	**Under**	**C**	**--**
Columbia/US 93	Under	C	D
7th Street/Spokane Avenue	Under	C	--
7th Street/Baker Avenue	Under	B	--
2nd Street/Spokane Avenue	Under	B	D
2nd Street/Baker Avenue	Under	C	F

Table 4-2
Projected 2015 Level of Service: Segments

Segment	Approximate LOS (Preferred Alt.)	LOS (No-Build Alt.)
Somers to Kalispell	B	F
Kalispell to Whitefish	C	F
West of Whitefish	A	C

Note: In the urban areas of Kalispell and Whitefish, the intersections control overall level-of-service. The operations of the intersections are shown in Table 4-1.

4.1.2 Traffic Operations and Circulation Impacts

4.1.2.1 Impacts

The No-Build Alternative will continue to provide inadequate traffic flow through and across the Flathead Valley. In the Kalispell area, traffic will continue to divert to parallel local streets which were not designed to handle the volume of traffic. In addition, this traffic would be diverted through residential areas.

The Kalispell area's traffic analysis under the No-Build Alternative and all design alternatives indicate that Main Street/Idaho Street will continue to be the bottleneck to operations for US 93. The least impact will be seen under Alternatives B(MEDIAN) or B(TURN-LANE), where through traffic is provided the opportunity to bypass the congested downtown area. Local traffic with trip destinations in the highly developed vicinity of the Main/Idaho intersection, will continue to cause traffic congestion typical of a major arterial/major arterial intersection in a thriving downtown area. However, traffic will still continue to use Meridian Road west of US 93, and 3rd and 4th Streets east of US 93 to avoid traveling through the Main Street/Idaho Street intersection.

The intersection of Reserve Street and US 93 will also become more congested by the year 2015. The intersection will operate at LOS C/D by 2015 as long as Reserve Street is widened to accommodate westbound double left-turn lanes for both Alternatives A and A/B, eastbound double left-turn lanes for A/B, and separate right-turn lanes for northbound US 93 to eastbound Reserve Street. This is an improvement over the No-Build Alternative. Alternative A plus B(MEDIAN) or B(TURN-LANE) operates at a higher level of service because it divides the intersection approach volumes and provides additional lanes of capacity.

Benefits common to all the build alternatives incorporating access control measures, although at varying degrees, will result from access consolidation. Improved intersections will provide traffic with a safer haven by construction of turn bays at intersections, installation of traffic signals when warranted and a lateral separation of the opposing traffic flows which reduces headlight glare.

The Restrictive Access Control Alternative, most associated with Alternative A(MEDIAN), will improve through traffic operations and safety by reducing the number and frequency of conflict points but will alter cross street and intersecting driveway traffic flow. Intersections with no turn restrictions will typically be spaced at minimally every .40 kilometer (.25 mile) to .80 kilometer (.50 mile) to minimize out-of-direction travel and yet still provide access to the highway. This design will require vehicles exiting an intermediate right-turn-only access location to proceed north if the intersection is on the east side of the highway and proceed south if the

intersection is on the west side of the highway, until an unrestricted turn intersection is provided. Traffic then desiring to proceed in the opposite direction can make a U-turn at the intersection, provided that sufficient geometry and traffic controls are in place. The U-turning traffic will increase the delay to left-turning vehicles. Left-turning vehicles currently comprise between **two and** three percent of total traffic, depending on the location along US 93. **Most of this turning traffic is likely to occur at a location where there is a break in the median so that only approximately one percent of total traffic could be subject to U-turning requirements.** Special designs will be included for U-turns by trucks and recreational vehicles. This design will encourage trucks to use routes that intersect US 93 with full turning movement capabilities. The 9.15-meter (30-foot) median provides the opportunity for most left turning traffic onto US 93 to accomplish the turn in two movements. Entering traffic can deal with one direction of travel on US 93 at a time and stop in the median prior to merging into the mainstream of traffic.

The Situational Access Control Alternative, typically associated with Alternative A(TURN-LANE), allows for traffic to enter and exit the traffic stream at generally the desired location depending on the level of access control for driveway and minor street approaches. The design of intersections will minimize the potential for head-on conflicts in the continuous left-turn lane, but increases accident potential over the Restrictive Access Control Alternative due to the greater number of conflict points associated with the greater number of driveway approaches. While this alternative increases vehicular operational flexibility, there is no refuge area in the median for pedestrians, and may result in greater accident potential.

The No Access Control Alternative provides the least benefit to through traffic operations, dispersing turning traffic to frequently spaced access locations with the greatest accident potential. This alternative, over time, will generally limit the traffic carrying capacity of any of the alternatives.

Alternative A(COMBO), with a combination of access alternative applications, provides flexibility in tailoring the control of left-turn access to the highway consistent with local development, existing access and topographic conditions. Some driveway and minor intersecting street traffic flow patterns will be altered, while through traffic will benefit from the decrease in conflict points. Alternative A(COMBO) provides the optional traffic operations of Alternatives A(MEDIAN) and A(TURN-LANE).

Alternative B will alter traffic flows in the downtown Kalispell area by diverting through traffic volume. The bypass will also accommodate local traffic on the west side of Kalispell by providing connections at Foy's Lake Road, US2, Two, Three and Four Mile Drives. The result will be smoother traffic flow in the downtown area with excess capacity available for summer tourist traffic. In addition, trucks not destined for Kalispell will be able to travel on Alternative B with fewer stops. Alternative B is anticipated to carry up to 3,000 local truck trips per day and 100-200 through truck trips per day.

In the Whitefish area, analysis of traffic operations under the No-Build Alternative indicate that the greatest impacts will be on Baker Street as its traffic volume increases to accommodate traffic diverted from traffic congestion on Spokane. Increased traffic and resulting congestion on Baker will be a direct impact to businesses and residents whose primary access is to/from Baker Street.

Alternative A(FOUR-LANE) may require left-turn prohibitions during peak travel hours at intersecting streets and major driveways and will require removal of all on-street parking on Spokane south of 2nd and on 2nd between Baker and Spokane. Further, there will be no provision for bike traffic other than in the general vehicle lanes/mix. Congested traffic operations are projected on Spokane between 2nd and Baker considering the 22,000 to 24,000 vpd projected volume, number and proximity of street and driveway intersections, the narrow lanes and no center median or adjacent parking/shoulder area, and the amount of large truck traffic in the vehicle mix.

LOS C operations are projected at the critical Spokane/2nd intersection, assuming curve radii improvements to accommodate large truck turns. Additional widening of the intersection will be a direct impact on pedestrians crossing the street, especially considering the intersection proximity to the school. Double left turns for northbound to westbound movements and double right turns for eastbound to southbound movements are needed for desirable traffic operations. Right-of-way acquisition to provide sufficient curve radii for dual turn lanes is required and will increase pedestrian crossing time of the wide intersection, decreasing pedestrian safety.

Circulating traffic on cross-streets that intersect with US 93 through Whitefish will experience increased traffic volume. Additionally, parallel streets to Spokane will experience increased traffic volume as local traffic diverts from the congested flow on US 93. Columbia and Kalispell Streets east of US 93 and Baker Street west of US 93 will all likely experience traffic that would otherwise use US 93 if sufficient capacity and free turning ability was provided.

Alternative C(OFF-SET) traffic operations will require parking removals on Spokane and Baker south of 2nd on the north side of 2nd between Baker and Spokane. Automobile and truck traffic operations will benefit from 3.66 meters (12-foot) wide travel lanes (on Spokane) and the additional clearance width provided by the adjacent bike lanes, as contrasted with the 3.35-meter (11-foot) lanes in A(FOUR-LANE). Approximately three percent additional capacity is provided by the 3.66 meters (12-foot) lanes over the 3.35-meter (11-foot) lanes. Less congestion will also result from the removal of parking maneuvers from through travel lanes.

Through traffic operations will benefit from the unbalanced lane conditions on Spokane and Baker. The additional capacity northbound on Spokane and southbound on Baker reinforces the current unbalanced traffic flows that are approximately 1,000 to 1,500 vpd higher on the respective streets/directions. Drivers unfamiliar with the unbalanced lane configuration may be confused by the uncommon laneage, and snow cover of pavement markings will further add to driver uncertainty of the unusual design. Double left-turns for northbound to westbound movements at the Spokane/2nd intersection are needed for desirable traffic operations. The additional widening for eastbound to southbound double right turns would not be necessary due to the divided traffic flow to Baker Avenue.

Increased traffic on Baker will directly impact traffic operations at the post office, medical center and credit union located along Baker. Truck traffic on Baker will be a direct impact to the residences with front and side yards along Baker. In addition, increased traffic and increased speed of traffic on Baker will be a direct impact to local traffic turning onto Baker from 6th, 7th or 8th Streets, especially considering the rolling profile and resulting limited sight distance. Circulating traffic and diverted traffic on parallel and intersecting streets is anticipated to be significantly reduced as additional capacity is provided by improved Baker and Spokane.

Alternative C impacts, resulting from one-way operation of the Baker/Spokane pair, include increased traffic on Baker Street, increased circulating traffic on cross-streets and streets parallel to the one-way pair, and increased travel time and distance due to out-of-direction travel. Double left turns for northbound to westbound movements at the Spokane/2nd intersection are needed for desirable traffic operations. Each sub-alternative will have differing direct and indirect impacts to local Whitefish traffic circulation as noted below:

- Alternative C(COUPLET-1) will result in the greatest out-of-direction travel time and distance, particularly for residents of the neighborhoods west of Baker served by 6th, 7th and 8th Streets. Increased traffic will also be an impact on 5th Street between Spokane and Baker.

- Alternative C(COUPLET-2) will significantly reduce out-of-direction travel and circulating traffic by the construction of the new segment of 7th Street between Spokane and Baker, approximately midway between 5th Street and the Baker/US 93 intersection. Extension of the one-way segment of

Baker to Columbia, included in this sub-alternative, will have operational impacts to commercial land uses adjacent to the US 93/Columbia intersection. Large truck, as well as automobile traffic, will be required to negotiate two 90 degree turns, from Baker to Columbia then from Columbia to US 93, with intersection curve radii constructed to accommodate large trucks.

- Alternative C(COUPLET-3) will have less potential impact to commercial land uses adjacent along US 93 from Columbia to Baker since the one-way pair will operate only between 7th and 2nd. Under this sub-alternative, two 90 degree turns, from Baker to 7th then from 7th to Spokane, will be required with necessary turn radii constructed for large truck turns. **Detailed layouts of several critical intersections in Whitefish are illustrated in Appendix A.**

- Alternative C(COUPLET-4) will limit out-of-direction travel by operation of a single northbound lane on Baker between 8th and 5th Streets. Projected traffic volume and speed of southbound Baker Street traffic will impact local turning traffic onto Baker from 6th, 7th and 8th Street. Circulating traffic will impact 5th Street both east and westbound and two 90 degree turns will be required at the southern end of the one-way pair at Columbia.

4.1.2.2 Mitigation

Possible measures include the coordination of all traffic signals in the downtown Kalispell and in Whitefish which would include upgrade of the signal hardware in several locations. In addition, as side street traffic volumes increase in the suburban and rural areas in addition to the increasing through traffic along US93, signalization will need to be considered. Section 4.1.5.2 lists possible intersections where additional signalization could be required. Prior to installation of any traffic signal, traffic signal warrants shall be met in accordance with the Manual on Uniform Traffic Control Devices. The plan should include a progression analysis along the corridor to minimize the number of traffic signals and to properly space traffic signals to provide gaps in through traffic for intermediate unsignalized intersections.

In addition, new developments along the corridor should be encouraged to develop access to the local street network. Concentrated traffic volumes on designated intersecting streets may help warrant traffic signals. Also, local street networks should be developed to offer an alternative roadway system for local traffic.

Mitigation for Alternative A(MEDIAN):

1. Access design for existing and future development should follow the Restrictive **(with flexibility)** Access Control Guideline outlined in Table 2-2.

Mitigation for A(TURN-LANE):

1. No special mitigation will be required beyond appropriate pavement markings and signage consistent with the generally unrestricted access provisions of this alternative.

Mitigation for A(COMBO):

1. Some special access designs would be necessary depending on the extent of access control as described in the access control guideline alternatives presented in Table 2-2.

Mitigation for Alternative C(COUPLET-3):

1. Appropriate intersection construction/reconstruction will be necessary to accommodate large truck turns and the increased circulating traffic on cross-streets.

2. Reconstruct the segment of Baker Avenue south of the Whitefish River to improve vertical geometry and stopping sight distance.

3. Improve driveway access to the post office, medical center and credit union and construct new access where applicable to cross-streets or parallel streets to Baker Avenue.

4. Post one-way signs along Baker Avenue and Spokane Avenue.

5. Traffic signalization of the 7th/Spokane and 7th/Baker intersections would be desirable when traffic signal warrants are met.

4.1.3 Traffic Safety

4.1.3.1 Impacts

The **accident potential along US 93 will increase with the** No-Build Alternative due to the increase in driver frustration, the lack of opportunity to pass, inadequate intersections to handle the volume of traffic, insufficient number of through lanes and left-turning traffic turning from the through lanes. **Two-lane alternatives have been shown to have significantly greater accident rates and severity rates than roadways with higher capacity.**

Common to all the Build Alternatives (south of Whitefish) is the addition of a second through lane which allows drivers to pass when desired, minimizing driver frustration, and improvements at intersections by providing turn lanes. Benefits derived in the Build Alternatives include:

1. Reduction in rear end and angle accidents associated with left-turn maneuvers

3. Shoulder widths [**2.44** meter (**eight**-foot) desirable width] which could reduce the accident potential as compared to the existing 0.61-meter to 2.44-meter (two- to eight foot) shoulder widths. This provides additional area for recovery of errant or out-of-control vehicles and for emergency stopping with less effect on through travel at higher speeds.

4. Clear zones to provide errant vehicles enough time to enter back onto the highway or maintain control of their vehicle.

5. Separation between through travel lanes to minimize headlight glare and potential for head-on conflicts.

Safety comparisons can be made between the different design alternatives. Suburban highways with medians tend to reduce rear-end and angle accidents associated with left-turn maneuvers and provide a physical separation to reduce head-on accidents. Suburban highways with a center turning lane reduce the frequency of rear-end and angle accidents associated with left-turn maneuvers, provide spatial separation to reduce head-on accidents but may generate safety problems at closely spaced driveways and intersections. Table 4-3 summarizes these safety factors.

Table 4-3
Summary of Safety Factors

	Safety Factors	Four-Lane Undivided		A(MEDIAN) and B(MEDIAN)		Alternative A(TURN-LANE) and B(TURN-LANE)	
1.	Minimize rear-end conflicts between left-turning and through vehicles and allow left-turn drivers to evaluate opposing gaps.	–	●	+ +	○	+ +	○
2.	Minimize high concentration of driveways and overlapping conflict patterns.	–	●	+ +	○	–	●
3.	Control conflicts between left turns into and out of driveways.	–	●	+ +	○	-	●
4.	Minimize or eliminate conflicts between opposing lefts off of highway.	–	●	+ +	○	-	●
5.	Minimize or eliminate conflicts between left turns and right turns from/to same lane.	+ +	○	+ +	○	+ +	○
6.	Minimize or eliminate conflicts caused by encroachment on opposing lanes of vehicles turning right into and out of driveways.	+ +	○	+ +	○	+ +	○
7.	Minimize or eliminate conflicts caused by encroachment on adjacent land of vehicles turning right into and out of driveway.	+ +	○	+ +	○	+ +	○
8.	Minimize or eliminate conflicts in opposing lanes of vehicles turning left off of highway.	+ +	○	+ +	○	+ +	○
9.	Minimize time during which left-turn conflicts which opposing traffic can occur.	-	●	-	●	-	●
10.	Provide protected position in median for crossing pedestrians	–	●	+ +	○	-	●
11.	Minimize conflict between bicycles and motor vehicles.	+ +	○	+ +	○	+ +	○
12.	Increase width of roadside clear recovery area.	+	○	+	○	+	○

○ + ++ More opportunity to reduce accidents ● - – Less opportunity to reduce accidents

Source: Multilane Design Alternatives for Improving Suburban Highways, March 1986, Harwood, Douglas W. (Transportation Research Board).

Safety factors also vary depending on the adjacent land use. Table 4-4 provides relative projected accident rates for Alternatives A(MEDIAN) and Alternative A(TURN-LANE). It is difficult to accurately predict an accident rate on a segment of roadway in the future because of all the range of variables. Therefore, rates provided are for comparison between alternatives and each component of an alternative and are not implied to be absolute rates for each alternative, particularly due to the alternative access control measures that may be applied along the corridor or corridor segments. A summary of the major finding includes:

- Alternatives A(TURN-LANE) and B(TURN-LANE) have a higher accident rate for non-intersection related accidents in both commercial and residential areas. **Typically, these alternatives would result in a significantly higher number of mid-block left-turn accidents**.

- Alternatives A(MEDIAN) and B(MEDIAN) have a higher accident rate at unsignalized intersections **(such as median breaks where traffic may U-turn)** in both commercial and residential areas. **This includes accidents associated with fixed objects and U-turns. In undeveloped areas, assuming median breaks are located approximately every 0.80 kilometer (one-half**

mile) and there are approximately 12 signalized intersections, there would be approximately 28 unsignalized intersections where the higher accident rate could occur.

- Similarly, non-intersection accident severity (as shown in Table 4-5) tends to be higher with Alternatives A(TURN-LANE) and B(TURN-LANE) and tends to be lower at unsignalized intersections.

- Accident severity increases in commercial areas as driveway density increases. Driveway density is more likely to increase with Alternatives A(TURN-LANE) and B(TURN-LANE), although the total number of driveway approaches (some with turn restrictions) may be just as high under the A and B(MEDIAN) alternatives if no access control is implemented.

Table 4-4
Accident Rates

Alternative	Adjacent Land Use	Driveway Density (1)	Accident Rate (2)	
			Non-Intersection	Unsignalized Intersection
Alternative A(TURN-LANE)/B(TURN-LANE)	Residential	0-30	0.91	0.78
Alternative A(TURN-LANE)/B(TURN-LANE)	Commercial	0-30	2.21	2.04
Alternative A(MEDIAN)/B(MEDIAN)	Residential	0-30	0.63	1.64
Alternative A(MEDIAN)/B(MEDIAN)	Commercial	0-30	1.67	3.64

Table 4-5
Accident Severity

Alternative	Adjacent Land Use	Driveway Density (1)	Accident Severity (3)	
			Non-Intersection	Unsignalized Intersection
Alternative A(TURN-LANE)/B(TURN-LANE)	Residential	0-30	0.35	0.21
Alternative A(TURN-LANE)/B(TURN-LANE)	Commercial	0-30	0.74	0.65
Alternative A(TURN-LANE)/B(TURN-LANE)	Commercial	30-60	1.49	0.65
Alternative A(MEDIAN)/B(MEDIAN)	Residential	0-30	0.13	0.74
Alternative A(MEDIAN)/B(MEDIAN)	Commercial	0-30	0.42	0.98
Alternative A(MEDIAN/B(MEDIAN)	Commercial	30-60	0.54	0.98

Note: Accident rate and severity are based on truck percentages between 5 and 10 percent and 0-5 intersections per mile.
(1) Number of driveways per mile.
(2) Accident rate in accidents per million vehicle miles.
(3) Accident severity in fatal/personal injury accidents per million vehicle miles.
(4) Alternative A(COMBO) will be similar to either Alternative A(MEDIAN) or A(TURN-LANE), depending on the cross-section in the particular location.

The analysis in Tables 4-4 and 4-5 is based on pavements that are dry and well-maintained (including well swept with lane striping that is clear and reflective). When these factors are not in place, accident rates and accident severity for Alternatives A(TURN-LANE) and B(TURN-LANE) may increase, since lane striping needed to delineate the center turn lane would be obscured. This issue is of particular relevance and concern in the Study Area because:

- The northern location results in more hours of darkness, with reduced visibility.
- The colder climate results in more snow and ice.
- The sand used for traction wears off the lane striping quickly.

A study in Idaho, Utah and Illinois indicated that snow increased the accident rate by four to nine times greater than that on dry pavement. No differentiation was made in this study for highway design, however.

Concerns were expressed during the EIS public hearing process that the A(MEDIAN) alternative would result in more drifting of snow when compared to the A(TURN-LANE) alternative. Discussions with MDT personnel who are responsible for maintaining different types of highways in areas where drifting snow is a concern indicate that as long as late season mowing of the grassy area in the median is conducted, there is little or no difference in the amount of drifting that occurs.

Widely-spaced, uncoordinated traffic signals, if warranted by the greater concentration of traffic, could affect through traffic capacity on US 93 (while potentially increasing level-of-service for traffic accessing the highway). Traffic conflicts would be created by the introduction of new traffic signal controls, but these conflicts could offset a reduction in potentially greater severity accidents at more frequent unsignalized intersections with uncontrolled access. The median concept could concentrate an equal number of conflicting movements to a few number of intersections. However, the access restrictions could help to encourage an improved secondary roadway network and greater cross access agreements serving properties along the corridor which could result in a net reduction of conflicting movements on the highway.

Alternatives A(MEDIAN) and A(COMBO) create a safer environment for pedestrians to cross since they provide a median area that can be used as a refuge. Noticeable differences in accident and severity rates would occur between the A(MEDIAN) and A(TURN-LANE) alternatives in those areas that are of low access density and serve primarily through traffic. These areas include MT 82 to Rocky Cliff Road and MP 119 to MP 121.

MDT has an urban median policy which states that raised medians have application on high volume arterial streets (such as MT 40 to the Whitefish River in future years). In these applications, raised medians "provide physical protection for vehicles turning left at bays, provide a refuge for pedestrians, and reduce the potential for head-on collisions" (*Urban Median Policy*, MDT, January 12, 1989).

Through Kalispell, the No-Build Alternative will result in the greatest accident potential as increasing traffic congestion leads to greater driver frustration, use of parallel city streets not designed to accommodate heavy through traffic volumes, and increased delay resulting from insufficient turning opportunities at downtown intersections. Alternative A through Kalispell would provide a minor amount of additional turning opportunities as some parking is removed to create left-turn lanes. However, minimal new through traffic capacity is provided, resulting in traffic congestion levels and diverted traffic onto city streets much the same as under the No-Build Alternative.

The A plus B(MEDIAN) or B(TURN-LANE) alternatives would decrease accident potential over the No-Build or A alternatives. Higher speeds on the bypass road may result in greater accident severity, but an overall fewer number of accidents. Differences between Alternative B(MEDIAN) and B(TURN-LANE) are summarized in Tables 4-4 and 4-5.

Through Whitefish, the No-Build Alternative will also result in the greatest accident potential due to the high level of traffic congestion with projected traffic volume on the existing substandard road segments of US 93. The greatest safety concern of the proposed Whitefish alternatives is the increased traffic volume on Baker Street. Parking traffic, pedestrian crossings, bicycle traffic and access to businesses and residents will be affected by the increased volume. The potential increased speed of traffic under the one-way pair alternatives and with two southbound lanes under Alternative C(OFF-SET) will be an impact, especially in the segment

south of the Whitefish River where the rolling grade of the road results in limited stopping sight distance. Alternative C(OFF-SET) could also have increased accident potential due to the somewhat unusual lane imbalance, particularly when snow covers roadway pavement markings.

Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3) and C(COUPLET-4) will result in less potential vehicle and pedestrian conflict points at intersections and driveways. However, drivers not familiar with the one-way conversion may present a potential for wrong-way travel for an interim period.

4.1.3.2 Mitigation

The following mitigation **will be implemented** to improve safety:

1. Reconstruct the segment of Baker Avenue south of the Whitefish River **(but north of Seventh Street)** to improve vertical geometry and stopping sight distance.

2. Construct sidewalks/bike paths along Baker Avenue.

3. Improve intersection and driveway sight distance by prohibiting parking near intersections and tree limb and foliage removal.

4. Install speed limit signs on Baker and Spokane appropriate for design speed **and monitored driver behavior after construction** of these downtown streets and install sufficient "One-Way", "Do Not Enter" and "Wrong Way" signing for one-way street operations.

5. Enforcement of posted speed limits.

6. Use larger-size traffic signs and wider pavement marking to accommodate **the elderly**.

7. Consider the use of a permanent marking tape for a longer life of pavement marking than paint.

8. Intense re-education program of correct use of features within a roadway design including deceleration lanes, two-way left-turn lanes, etc. **This will only work for drivers who live in the area and not for visitors to the area**.

9. Advance signage for street names at major intersections along the corridor.

4.1.4 Parking

4.1.4.1 Impacts

As with any rural highway, no parking is permitted with any of the design alternatives in the rural areas. However, in the urban areas of Whitefish and Kalispell, on-street parking will be removed. Approximately 12 blocks of parking removal (with an average of ten spaces per block) will be required in Kalispell for all build alternatives. Only limited parking removal near intersections and driveways will be required under the one-way pair alternatives.

Table 4-6 shows parking impact in Whitefish by alternative.

Table 4-6
Whitefish Area Parking

	Number of Spaces					
	Spokane Ave. (7th to 2nd)	Baker Ave. (2nd to 5th)	2nd Street (Spokane to Baker)	2nd Street (Baker to Whitefish River)	Total Parking Available	Parking Lost
Existing Parking	93	45	27	50	215	N/A
Alternative A(FOUR-LANE)	0	45	0	0	45	170
Alternative C(OFFSET)	0	0	0	0	0	215
Alternative C(COUPLET-1)*	50	20	10	25	105	115
Alternative C(COUPLET-2)*	50	20	10	25	105	115
Alternative C(COUPLET-3)*	50	20	10	25	105	115
Alternative C(COUPLET-4)*	50	20	10	25	105	115

**Parking assumed to be on the west side of Spokane, east side of Baker, north side of 2nd between Baker and the Whitefish River Bridge, and south side of Second between Spokane and Baker. Intersection geometry and safety improvements may require additional parking removals.*

This loss of on-street parking will create a demand for more on-street parking on the side streets and in adjacent parking lots.

4.1.5 Access

4.1.5.1 Impacts

Alternatives A(MEDIAN) and A(COMBO) would change the existing unrestricted access to right-in, right-out utilizing a flexible application of the Restrictive **Access Control (with flexibility), as described in** Table 2-2. Consolidation of access points would also result.

Alternatives A(MEDIAN) and A(COMBO) with Restrictive Access Control will have the following impacts on future access:

- Minor street intersections may be limited to right-turns only.
- Full turn access in undeveloped areas will be allowed at approximately .80-kilometer (half-mile) intervals.
- **Additional cost and delay in the right-of-way acquisition process.**

Alternative A(TURN-LANE) with Situational Access Control will allow full turn access at major and minor street intersections. In undeveloped areas, future unrestricted turn access would be allowed at intermediate locations, controlled by purchase of access rights.

Along US 93, there will be modifications to existing driveways. The addition of lanes and/or shoulders will require existing driveway approaches to be reconfigured. In addition, some driveway

consolidation will occur and in some cases, internal circulation roads will be added to serve multiple driveways.

Alternative A(FOUR-LANE) will result in access impacts to businesses along Spokane and to cross-streets serving residential neighborhoods east of Spokane since turn prohibitions will be required during peak traffic hours. Increasing congestion on Spokane will also limit easy access to businesses and residences.

Alternative C(OFF-SET) will result in some access impacts to businesses and residents along Baker Street as the increased volume of a portion of US 93 traffic is introduced to this arterial street. Sub-alternative C(COUPLET-1) will have the greatest out-of-direction travel impact to the residential neighborhood west of Baker since northbound traffic must first travel south on Baker approximately 1.29 kilometers (0.8 mile) before turning north onto Spokane. Sub-alternatives C(COUPLET-2) and C(COUPLET-3) will provide improved access to this residential area via construction of the 7th Street extension between Spokane and Baker, while sub-alternative C(COUPLET-4) will provide convenient northbound access on Baker to 5th Street.

The one-way alternatives will impact access to businesses and residents along Baker and Spokane, resulting in some out-of-direction travel, typically around the immediate block in which the business/residence is located. Greater out-of-direction travel will be required for businesses and residences near the Whitefish River since the grid of city street network is discontinuous in this area of town.

4.1.5.2 Mitigation

1. Guidelines for the location of direct access points on US 93 have been developed on the basis of desired traffic operation on US 93 with consideration of land ownership patterns. Where there are numerous curb cuts along one or both sides of the roadway and a limited number of vehicles use any one driveway , the continuous two way left turn lane as in Alternative A(TURN-LANE) (or portions of Alternative A(COMBO)) is appropriate.

2. Consolidation of access points will improve traffic flow along the corridor and minimize the cost of improving all intersections. In addition, consolidation can concentrate traffic to certain driveways or minor road approaches to meet appropriate signal warrants when necessary.

3. Signals can be provided to improve overall access and circulation. Potential access points which might warrant additional traffic signals **in future years** might include:

   - US 93/Columbia Avenue
   - US 93/Willow Glen/Cemetery Road
   - US 93/Airport
   - US 93/Happy Valley
   - US 93/MT 40
   - US 93/MT 82
   - US 93/18th Street**/Greenwood Drive**
   - Alternative B/US 2
   - Alternative B/Two Mile Drive
   - Alternative B/Three Mile Drive
   - Alternative B/Four Mile Drive

   Intersections that potentially could be signalized were determined by identifying the location of existing operational problems, where operational problems could exist in the future or where forced gaps are needed to create gaps in traffic to allow side street traffic to access the highway. Prior to the installation of a traffic signal, traffic signal warrants set forth by the *Manual on Uniform Traffic Control* must be met. Examples of some types of these warrants include the investigation of the volume of intersecting traffic, traffic volume on a major street is so heavy that traffic on a minor street suffers excessive delay, high pedestrian usage, inadequate gaps for school children to cross,

maintain proper grouping of vehicles and effectively regulate group speed, high accident experience, and a need to encourage concentration and organization of traffic flow. Once traffic signal warrants are met, the decision whether to install or not the traffic signal needs to be investigated to determine whether any other adverse conditions are created.

4. Consider construction of supplemental business/residential access to adjacent cross-street or parallel street.

5. Provide signage to alternative access and increase size of street name signs for better visibility by circulating traffic.

4.1.6 Compatibility With Plans

Alternatives **including the bypass** are consistent with transportation plans in Kalispell and Flathead County. All of the proposed actions of the US 93 alternatives through Kalispell are generally consistent with the *Kalispell Area Transportation Plan*.

The proposed actions of the US 93 alternatives through Whitefish are generally consistent with the Whitefish City-County Master Plan and Whitefish Traffic Study, except as noted below:

- Baker Street is considered currently a collector street from 2nd Street south to US 93. The preferred alternative will require reclassification of Baker to arterial.
- The segment of 7th Street between Spokane and Baker is not currently included in the Master Plan and will need to be added with the preferred alternative.
- A bypass west of Whitefish does not meet the purpose and need for this US 93 project. It is being studied as a part of the ongoing *Whitefish Traffic Operations Study*.

4.1.7 Transit/Future Transportation

All build alternatives will improve overall transit conditions in the study area, since all include park-n-ride facilities and the potential for a future transit corridor.

Alternative A(MEDIAN) and B(MEDIAN) are potentially more compatible with the need to expand US 93 in the future to accommodate transit or another transportation use (such as an HOV lane). The larger median area can more easily accommodate future expansion.

4.1.8 Rail Service

Alternatives B(MEDIAN) and B(TURN-LANE) will affect rail service to customers currently served by a rail spur, just south of US 2. An at-grade crossing (controlled by signals and gates) is planned at this location, which should adequately accommodate the infrequent rail service to these businesses.

4.1.9 Construction

4.1.9.1 Impacts

During construction, delays will be anticipated for all the build alternatives. Drivers attempting to access abutting land uses will be delayed. Two traveling lanes will be maintained at all times during construction; however increase in delays will occur for the general traveling public depending on the construction techniques employed. Traffic is anticipated to be detoured within the US 93 right-of-way or on other local streets **as much as possible.**

The most noticeable delays and detours will occur in the following locations:

- **In Kalispell, from Ashley Creek to the Courthouse.**
- **In Whitefish.**
- **At the Stillwater Bridge area.**
- **In areas of transition between one cross-section to another; or shifting from one side to another.**

Construction of the new segment of 7th Street between Spokane and Baker can occur with minimal if any traffic disturbance to US 93 or Baker Street traffic. Intersection reconstruction for intersection curve radius improvements will cause minor inconvenience to traffic.

The most notable indirect impact of the proposed action will be the inconvenience to motorists caused by the construction delays. Motorists will be required to adjust their travel schedules to consider the length of possible delays. Some facility users may choose alternate travel routes to avoid construction sites, impacting local city streets.

4.1.9.2 Mitigation

MDT will require the contractor for the proposed action to schedule construction operations and provide traffic control in a manner that will assure:

1. Adequate safety and convenience to motorists and pedestrians, and the safety of construction workers at all times.

2. The progress of the project is advanced in a manner most beneficial to the public.

3. Traffic control for all construction activities within 9.15 meters (30 feet) of the existing road.

4. Traffic control conforms with all MDT specifications and plans and the Manual on Uniform Traffic control Devices (MUTCD).

5. Construction signing is removed or covered when the facility is returned to normal use.

6. Work zone signing conforms with that shown on construction plans.

The contractor will be required to submit detailed traffic control plans that designate how access will be maintained to abutting land uses, keeping a minimum of one lane open in each direction of travel at all times during construction. A public information plan will also be developed that warns motorists in advance of the construction activity that construction will be occurring. This will involve the use of the various communication media including radio and newspapers to inform motorists of the location of construction, advise alternate routes and the length of delay anticipated. Where plans will also restrict certain construction activities to the off-peak hours including some night time construction where traffic volumes are substantially less than between 7am and 7pm.

4.2 Land Use

Existing land use conditions are described in Section 3.1.

Flathead County will experience substantial expansion of residential and commercial land uses irrespective of which US 93 alternative is selected. From 1993 to 2015, the county is forecasted to add 10,000 additional housing units. Most new business development will be in the retail and service sectors.

4.2.1 General Impacts

US 93 alternatives will not substantially affect the total amount of new development occurring in the Flathead Valley, but will have some influence on characteristics and the geographic distribution of this development. US 93 alternatives are one of many factors which will influence the character and distribution of future land uses in the Flathead Valley. Other factors include: city and county land use plans and regulation practices; Montana Department of Transportation highway access restrictions; city and county road improvement policies; the characteristics of public and private utility services; the locations of business markets and job centers; site specific amenities and physical and socioeconomic constraints; land owner and developer resources and preferences regarding development; and, the availability of other developable lands.

The US 93 "Build Alternatives" will directly displace a small number of residential, commercial and industrial buildings. Residential land areas displaced by the "Build Alternatives" consist mainly of yard and driveway areas. Commercial and industrial lands displaced by the project are mainly driveway, parking, and green areas. Agricultural land removed from production includes a mix of crop and grazing lands.

4.2.2 No-Build Alternative

No existing or planned land uses will be directly displaced by the No-Build Alternative.

The No-Build Alternative will provide no resolution of existing US 93 traffic problems and will allow traffic conditions to worsen in the future. This will perpetuate and intensify the influences US 93 traffic congestion and access impediments are having on land use patterns in the Flathead Valley.

Growth in traffic congestion, highway noise, air pollution, and the exacerbation of hazards and inconveniences associated with driveway access on to and off of US 93 will further discourage new single-family home development in urban and rural areas adjacent to the highway corridor. Inside Kalispell and Whitefish, higher density residential development may occur on urban lands paralleling the highway. High density residential development is most likely to occur in areas which are served by signalized intersections or where other city

streets provide alternative access. Single family houses which will be built along rural segments of US 93 are likely to be set back long distances from the highway.

Inside cities, commercial development will continue to occur along US 93 in the southern sections of Kalispell and Whitefish. The business development benefits created by increasing highway traffic will be undermined by congestion and driver difficulty in making cross lane turns and parking movements. Constraints to turning movements will place a premium on commercial sites near signalized intersections. Elsewhere, businesses will increasingly be oriented to serving one-directional traffic. Congestion and obstacles to turning may divert commercial investment away from central business districts and other commercial areas on US 93 in Kalispell and Whitefish, to more accessible locations along US 2, MT 35, MT 40, and other major thoroughfares.

The No-Build Alternative will motivate increasing numbers of city drivers to use side streets to avoid US 93 congestion. Elevated traffic, noise, and air pollution in residential areas may discourage reinvestment in residential properties, and foster conversions to higher density residential and commercial land uses.

Flathead County's comprehensive plan encourages infilling of vacant lots in existing rural subdivisions located near the US 93 corridor. As highway driving conditions deteriorate and access to and from county roads becomes more constrained, new residential development nearby the highway will be discouraged. Rural residential development will become more oriented to using parallel north-south county roads as travel routes to Kalispell and Whitefish. This development pattern will accelerate residential development in more pristine and agriculturally productive areas of the Flathead Valley. Traffic congestion on US 93 will also cause increasing use of county roadways such as Whitefish Stage Road, Karrow Drive, Blanchard Lake Road, Stillwater Road, Demersville Road, and Lower Valley Road also will be used as defacto bypasses. Some of these roads may attract small scale commercial developments, e.g., convenience store type of land uses.

The Kalispell Comprehensive Plan encourages industrial development along the highway to the south of the city. Again, difficulty of turning movements, and in particular poor access and egress for large trucks, will constrain the growth of truck oriented industrial land uses.

The recent enactment of zoning between Kalispell and Whitefish will restrict development of new commercial land uses along this highway segment.

4.2.3 Impacts Common to Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO)

The land uses effects of the "A" alternatives will generally be the same within the cities of Kalispell and Whitefish. US 93 improvements will directly displace one commercial land use in Whitefish. No land uses will be displaced in Kalispell. (A separate project planned by the Montana Department of Transportation will displace up to three commercial land uses at the intersection of US 2 and US 93 in Kalispell.) The conversion of parking and shoulder areas to traffic lanes will bring traffic closer to city residences along the US 93 corridor and will encourage conversion of remaining low density residential land uses to higher density residential and commercial uses. Improvements to turning movements may enhance the attractiveness and encourage new investment viability of higher density residential developments adjacent to the highway. Reductions in drive-through traffic on city residential streets may help to preserve and encourage reinvestment in residential neighborhoods.

Traffic flow improvements in Central Business District areas will mainly be achieved by redesigning traffic lanes, rebuilding intersections, enhancing crosswalk areas, and by restricting of on-street parking. Highway improvements will enhance traffic flows and turning movements through downtown Kalispell and Whitefish and

will support expansion of office, personal and business service, and specialty retail land uses. The elimination of on-street parking will increase demand for parking lot areas on CBD side-streets, and will additional encourage conversions of public and private lands parking area.

Proposed improvements will encourage upgrading and expansion of commercial land uses on US 93 south of the county courthouse in Kalispell and along the Spokane Avenue segment of US 93 in Whitefish. Improved spacing of highway traffic and the development of center turn lanes or turn bays will reduce traffic barriers to customer access, and prompt more intensive commercial development. During peak traffic periods, congestion will still restrict turning movements and inhibit businesses development from fully benefiting from growth in drive-by traffic.

Improvements to traffic spacing and turning movements will enhance truck access to and from the highway and will encourage development of properties south of Kalispell for truck oriented industrial development. Industrial-type land uses are encouraged south of the Kalispell by the city's comprehensive plan.

Highway improvements also will improve the viability to rural residential development in areas which are served by US 93. The influence of highway improvements on rural residential development patterns will primarily occur to lands. Several existing subdivisions are located along county roads which access on to US 93, and safer and more convenient turning movements will encourage infilling of vacant lots in these developments. Infilling of these lands will attract development away from other more pristine and agriculturally productive rural areas.

Improved access onto nearby county roads will also improve the viability of new residential development in undeveloped areas. Enforcement of city and county zoning will restrain intensive new developments, but access improvements will enhance the feasibility of very large lot residential development. Highway improvements also will make it easier to make turns to and from driveways located along the highway. Traffic, noise and air pollution will continue to discourage substantial amounts of single family home development in close proximity to US 93.

Highway improvements will also enhance the viability of commercial and industrial development along rural highway segments. Roadway improvements will enhance the ability of existing businesses to serve drive-by customers and will encourage expansion of existing business land uses. Recently adopted county zoning will restrict development of new commercial and industrial land uses between Kalispell and Whitefish. Kalispell's industrial zoning extends southward along the highway corridor to the Balls Crossing area. Highway improvements will encourage industrial development in this area. Highway improvements will facilitate unplanned commercial and industrial development in the unzoned area north of Somers. Figure 3-1 shows the zoned and unzoned areas within the project area.

4.2.4 Impacts Which Differentiate Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO)

Differences in the effects of Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO) on future land uses will occur in urban-rural transition areas and along rural sections of highway.

Alternative A(MEDIAN) favors concentration of new commercial and industrial uses at city intersections served by turn bays and mid-block locations accessible from cross lane turning areas. A divided highway design will encourage denser and more coordinated commercial land development on US 93 in south Kalispell and along Spokane Avenue in Whitefish. This will be consistent with the community's stated desire to create a gateway to Whitefish. A center median design also will advance south Kalispell industrial development near intersections and along frontage roads. In rural areas, Alternative A(MEDIAN) will encourage expansion of

existing commercial land uses at intersections and turning areas between Kalispell and Whitefish. This alternative also favors new residential development along nearby county roads. The presence of a center median will discourage investment in residential, commercial and industrial land uses located in mid-block areas. The presence of the center median will reinforce the implementation of the city/county planning objectives to preserve agricultural lands and restrict new development along the US 93 corridor. In the unzoned area north of Somers, Alternative A(MEDIAN) will favor new business development at highway intersections with county roads.

Alternative A(TURN-LANE) will support reinvestment and new commercial development at intersections and at irregular locations along the highway corridor. Alternative A(TURN-LANE) will encourage less dense and uneven extension of commercial strips south of Kalispell and Whitefish. This will not be as consistent with the community's stated desire to create a gateway to Whitefish. Alternative A(TURN-LANE) will permit trucks to make left-turns onto the highway from individual driveways and will support low density dispersed industrial land adjacent to US 93 south of Kalispell. Two directional access onto US 93 also will allow for development of new access roads onto US 93 serving new subdivisions and large lot residential development setback from the highway. A five-lane design also will support random development of businesses in unzoned areas north of Somers. Alternative A(TURN-LANE) will not reinforce the implementation of the planning objectives to preserve agricultural lands and restrict new development.

Alternative A(COMBO) uses a blend of four-lane divided highway and five-lane highway designs. Alternative A(COMBO) generally provides for five-lane highway segments inside Kalispell, Whitefish, and Somers and divided highway designs in rural areas. Alternative A(COMBO) will support less intensive and more linear commercial and industrial development along city highway segments. Use of center medians along rural segments will favor new commercial and industrial investment near intersections served by turn bays. The presence of the center median will reinforce the implementation of the city/county planning objectives to preserve agricultural lands and restrict new development along the US 93 corridor. The rural portion of Alternative A(COMBO) differs from Alternative A(MEDIAN) where it extends the five-lane highway design farther to the south of the City of Kalispell. Extending the five-lane design farther will encourage less dense commercial and industrial development patterns along this highway segment.

4.2.5 Impacts Common to Alternatives B(MEDIAN) and B(TURN-LANE)

Alternative B(MEDIAN) or B(TURN-LANE) will create a southwestern and western bypass around the Kalispell urban area. The bypass will primarily serve non-stop travelers and commercial truck traffic. Development of a west bypass will be in addition to improvements to the existing US 93 corridor through Kalispell.

Development of a west bypass around Kalispell will lessen traffic volumes on existing US 93 through the city, without substantially affecting the market for commercial goods and services created by US 93 travelers. Coupled with highway design improvements within the city, customer accessibility to business on US 93 in the Kalispell Central Business District and commercial areas south of Kalispell will be improved. Highway improvements will make business locations on US 93 more competitive with rival commercial areas elsewhere in the Flathead Valley, and will encourage new investment and expansion of commercial land uses along the existing highway corridor through Kalispell. Expansion of certain types of business land uses may be inhibited by development of bypass route. For example, truck stops located on existing US 93 will be disadvantaged by the rerouting to drive-through and commercial truck traffic.

<u>The land use effects of beltways (or bypasses) have been extensively studied, including a landmark study by the US Department of Housing and Urban Development which analyzed land use effects of</u>

beltways in numerous United States cities. The findings of these analyses are that beltways do not attract development to a region where a market for growth does not already exist. Beltways do, however, influence the location and timing of development within a region. This basic supposition is consistent with the opinions of the land use planners and other local development experts who served on the US 93 Land Use Subcommittee. These land use planners and others agreed that development is currently occurring in the west Kalispell area, is programmed to continue in the west Kalispell area, and will be accelerated upon completion of the bypass of the west Kalispell area.

The southwestern segment of Alternative B generally follows a Burlington Northern Railroad spur line from US 93 to Foy's Lake Road. It will supplant approximately 13.37 hectares (33 acres) occupied by the rail spur. Two small segments of this rail spur alignment will be located outside of the railroad's property. These segments will not directly displace any houses, but will result in removal of one building and storage area used by a construction contractor. The railroad alignment also will displace about 1.22 hectares (three acres) of agricultural land used for pasture, and about .04 hectares (0.1 acre) devoted to residential and 0.12 hectare (0.3 acres) serving commercial/industrial land uses.

The development of the southwestern segment of the bypass will improve the road access into areas south and southwest of Kalispell. This area is classified as agricultural by the Kalispell Comprehensive Plan, and only very low density residential development is permitted to occur. Low density residential ranchette-type development is occurring in the area and improved access is likely to increase the number of ranchettes which are constructed in this area. Intensive residential development southwest of Kalispell will be constrained by current zoning restrictions, and the absence of public water and sewer services. To the extent that added low density residential development will occur southwest of Kalispell, it will **accelerate the displacement of** additional agricultural land uses.

From Foy's Lake Road to US 93, Alternative B will cross through lands devoted to industrial, commercial, and agricultural uses. From Foy's Lake Road to US 2, the B alignment will displace about 2.03 hectares (five acres) of industrial land. The alignment splits a large industrial parcel and removes three support buildings. At US 2, the project will take an estimated 1.22 hectares (three acres) of undeveloped land zoned for commercial land uses. North of US 2, the bypass will supplant an estimated 10.94 hectares (27 acres) of agricultural land. Most of this land is devoted to growing small grains.

North of US 2, the bypass will traverse the western edge of the Kalispell urban area. This area is in transition from agricultural to residential land uses and is designated for high and moderate density residential development by the Kalispell Comprehensive Plan. There are long-term plans to extend city services into the area which will increase the ability of the area to support intensive residential development. By splitting numerous agricultural parcels, the bypass will make it more difficult to carry on farming and may hasten the conversion of farmland to residential land uses. Some land use subcommittee members have suggested that Alternative B will create a barrier, which will eventually separate urban density residential development to its east from agricultural and low density residential land uses to its west (Land Use Subcommittee, 1993).

The bypass's intersections with US 2 and the existing US 93 corridor (Snowline Road to the south) and (West Reserve to the north) will become more favorable locations for traveler and truck oriented commercial developments. A bypass will encourage more intensive commercial development at these intersections, and will to lure investment away from proposals for similar land development elsewhere in the Flathead Valley. Elsewhere along the bypass route, commercial land uses are not permitted by current zoning.

4.2.6 Impacts Which Differentiate Alternatives B(MEDIAN) and B(TURN-LANE)

Local government planning, zoning, and subdivision regulations and MDT imposed restrictions on left turning movements and new road and driveway accesses will be used to restrict development of non-agricultural land uses along rural sections of the southwest segment of the bypass corridor. **The impacts of these are the same, regardless of the alternative chosen**. The difference in the land use effects of the design Alternatives B(MEDIAN) and B(TURN-LANE) will be that center median provided for in Alternative B(MEDIAN) also will create a physical barrier which will inhibit new development along mid-block areas of the corridor; whereas, the five-lane highway proposed in Alternative B(TURN-LANE) will rely on the regulatory authorities of state and local government agencies.

The Kalispell Comprehensive Plan encourages new residential development in the area to be traversed by the northern segment of the bypass. To the extent that a center median will discourage residential development along roads and driveways accessing on to the bypass corridor, it will favor residential development in areas served by east-west county roads. A five-lane highway will provide housing developers with more flexibility in developing residential land uses which access directly or indirectly onto the bypass highway.

4.2.7 Impacts Common to Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), and C(COUPLET-4)

The Alternative C options will convert US 93 into opposite flowing one-way streets or parallel two-way streets.

Development of a Baker-Spokane Avenue couplet will decrease traffic congestion in Whitefish's Central Business District, without reducing overall markets available to CBD businesses. The couplet system is not likely to change the character of existing commercial land uses along Second Street, or on the north side of the CBD. The alleviation of traffic congestion and better pedestrian access will help to offset the effects of reduced drive-by traffic and loss of on-street parking on Second Street businesses. Development of a Baker-Spokane Couplet will enhance the viability of Baker Avenue as a location for downtown business development. A couplet system may also encourage more intensive commercial development along Third Street, which will become a more integral part of downtown circulation patterns. In general, the Whitefish Central Business District will become more accessible to pedestrians, and commercial land uses will be allowed to become more oriented to serving walk-in clientele.

A couplet system also will influence commercial development patterns along Spokane Avenue. More intensive commercial land uses are likely to develop near the Baker Avenue (or Seventh Street) intersection with Spokane Avenue; where US 93 will be returned to two-directional traffic flows. This area is also likely to benefit the most from recently adopted zoning restrictions for areas south of US 40. Some of the business growth which would have occurred along rural segments of US 93 is now likely to occur in the Spokane Avenue segment of the highway.

Conversely, reduced drive-by traffic will make lands to the north of the Baker-Spokane intersection (the northbound one-way segment) less attractive for commercial development and will slow the transition this section of Spokane Avenue from residential and home occupation type land uses to highway commercial-type land uses.

Elevated traffic volumes on Baker Avenue also may encourage higher housing densities in residential areas adjoining this roadway. Denser residential land uses are permitted under current zoning. There also may be an increase in home occupation-type businesses in the Baker Avenue residential area. Improvements to Baker

Avenue will also improve access into residential areas in southwestern Whitefish. These areas are designated as residential growth areas by the Whitefish Comprehensive Plan.

4.2.8 Impacts which Differentiate Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), and C(COUPLET-4)

Baker Avenue alternatives which extend the roadway southward to a new intersection at Spokane Avenue will displace a small amount gravel pit area and commercial property. Alternatives C(COUPLET-2) and C(COUPLET-4) will both supplant about .81 hectare (two acres) of gravel pit and two acres of commercial land, while option C(COUPLET-3) will depose about .41 hectare (one acre) of commercial land. Alignment option C(COUPLET-1) is located exclusively within existing Baker Avenue corridor and will require no additional land.

The location of the Baker Avenue intersection with Spokane Avenue will influence the distribution of commercial development patterns along Spokane Avenue. Alternatives C(COUPLET-1), C(COUPLET-2), and C(COUPLET-4) will locate the couplet intersection in the vicinity of Columbia Avenue. These design alternatives will favor commercial development patterns which are more intensive to the south and less intensive to the north of Columbia Avenue. Alternative C(COUPLET-3) will extend the reach of two-way traffic on Spokane Avenue to Seventh Street, and will favor commercial development patterns which are more intensive to the south and less intensive to the north of this intersection.

Alternatives C(COUPLET-1), C(COUPLET-3), and C(COUPLET-4) may encourage businesses some businesses on Spokane Avenue to extend entryways and expand facilities westward to serve southbound traffic on Baker Avenue.

4.2.9 Access Control Alternatives

Alternative access control policies (restrictive, no access and situational) regarding new road and driveway access onto US 93 will be implemented for this project. Depending on the access control policy implemented, land uses and development patterns will be affected.

4.2.9.1 Restrictive Access Control Policy

Imposition of restrictive access controls will further discourage development of commercial and residential land uses at new locations along rural highway segments. MDT restrictions of new road or driveway access onto US 93 will reinforce the effectiveness of rural zoning ordinances which seek to prohibit new commercial land uses and intensive residential development. Especially in urban and urbanizing areas, strict limitations on new access will favor new development and reinvestment in areas with established access onto the highway. Stringent access controls will favor more intensive (higher density) commercial and industrial development patterns. Highway access controls will also favor industrial development along frontage roads.

This policy (with flexibility) is the preferred access control policy.

4.2.9.2 No Access Control Policy

If MDT does not limit new road and driveway access onto the highway corridor, developers will have greater flexibility in locating new residential, commercial, and industrial land uses. In the absence of access controls, additional low density residential development will occur adjacent to rural highway segments. Most of this development will be set back from the highway. Permissive access policies will allow for establishment of new roads onto rural segments of US 93, which will open up new areas to low density residential development. Residential ranchette development in previously undeveloped areas is likely to displace agricultural lands, and intrude into wetlands and other environmentally sensitive areas. The absence of restrictive access controls also will increase requests for zoning variances to permit new commercial uses along rural highway segments.

In urban and urbanizing areas, a no access control policy will help to perpetuate ongoing commercial and industrial development patterns south of Kalispell and Whitefish. Unrestricted location of driveways and new access roads will favor incremental and lower density business development patterns. Uncontrolled access will more evenly distribute the business development opportunities among US 93 properties. Even if location of new roads and driveways is not regulated, developers will still be required to construct new accesses to MDT specifications.

4.2.9.3 Situational Access Control Policy

A situational access control policy will allow MDT flexibility to enact restrictive or permissive access policies based on highway design, traffic conditions, land use objectives, and other public policy objectives. Such a policy could be used to discourage development along high speed highway segments, and in agricultural and environmentally sensitive areas. By allowing for more flexible access in undeveloped urban lands, MDT may encourage infilling of undeveloped or underdeveloped properties.

4.3 Farmland

Existing farmland conditions are described in Section 3.2.2.

4.3.1 Impacts

Impacts to farmland occur whenever the surface area is paved with impervious surface, covered by fill or removed by cutting to accommodate the installation of the roadway. Also the purchase of ROW can preclude the use of the area for agricultural purposes although it may be physically left untouched.

4.3.1.1 No-Build Alternative

The No-Build Alternative will not directly impact prime farmland or farmland of statewide importance.

4.3.1.2 Impacts Common to Build Alternatives

Impacts common to all build alternatives will be created by the interruption of existing patterns of transportation and/or the execution of routines. These interruptions can create economic impact by creating patches of land too small to be economically feasible for farming. Additionally, reconfiguring transportation routes may adversely effect the transportation of farm or ranch commodities to their markets or impede with the necessary grazing, herding and movement of livestock.

Indirect impacts also occur when an alternative results in the conversion of prime farmland to residential or commercial use. This indirect impact will occur with all alternatives, including the No-Build Alternative. **Alternative B in Kalispell will accelerate the conversion of farmland to other land uses.**

Table 4-7 includes a tabulation of direct impacts on farmland. Direct impacts have been defined as the farmland that is within the right-of-way of the alternatives.

4.3.1.3 Impacts Which Differentiate Build Alternatives

- Alternative A(MEDIAN): This alternative will require the purchase of additional right-of-way in agricultural locations. There will be a total of 7.57 hectares (18.7 acres) of prime farmland and 1.65 hectares (4.07 acres) of prime if irrigated farmland directly affected by this additional right-of-way. The greatest portion of these affected acres are located near the split alignments.

- Alternative A(TURN-LANE): There will be no additional right-of-way for this alternative. This is due to the fact that previous right-of-way purchases for this project were made with a similar configuration in mind. Most of the necessary right-of-way **(in rural areas)** for this alternative has already been in place for several years. **This alternative will result in increased indirect impacts on farmland, as a result of likely increased strip development.**

- Alternative A(COMBO): This alternative is a combination of both of the above alternatives. **It has less impact than the A(MEDIAN) alternative. It is the preferred alternative.**

- Alternative B(MEDIAN): This alternative has the largest direct impact on Prime and Unique Farmland as it is creating a new alignment through open lands. This would be true of any alternative that does not overlay an existing alignment.

Table 4-7
Farmland Impacts
Hectares (Acres)

	Preferred Alternative		No-Build	
Segment	Prime	State/Local	Prime	State/Local
Somers to Kalispell	0.34(0.83)	0(0)	0(0)	0(0)
Kalispell Area	16.43 (40.61)	3.68 (9.09)	0(0)	0(0)
Kalispell to Whitefish	7.45 (18.4)	5.02 (12.4)	0(0)	0(0)
Whitefish Area	0(0)	0(0)	0(0)	0(0)
West of Whitefish	0(0)	0(0)	0(0)	0(0)

4.3.2 Coordination

Coordination with the Soil Conservation Service (SCS) has occurred. Form AD 1006 (Farmland Conversion) was submitted to **and approved by** the SCS. **This is included in the Draft EIS.**

4.3.3 Mitigation

Mitigation will be addressed during the design of the roadway. Mitigation measures possible to lessen these types of impacts **to farmland** are; under or overpasses, median refuges, U-turn **accommodations** or widened shoulders.

4.4 Social

Existing social conditions are described in Section 3.3.

4.4.1 Impacts

Flathead County is predicted to experience substantial population growth regardless of whether improvements are made to US 93. From 1993 to 2015, the county's year-round population is forecasted to increase from 64,000 to 86,000, and with the peak summer population increasing from about 75,000 to over 100,000. The build alternatives will not meaningfully affect the ability of the Flathead area's economy to support population, or change the area's appeal as a place to retire or locate a second home.

US 93 alternatives may have some influence on the geographic distribution of area's future population growth. This will occur in areas where highway alternatives substantially change the quality of access into an areas with development potential. Impacts of US 93 alternatives are one of many factors will influence the distribution of future settlement in Flathead County.

The effects of US 93 alternatives on the distribution of settlement in Kalispell, Whitefish, and rural areas of the central Flathead Valley are discussed in Section 4.2, Land Use. Highway alternatives will have very minor impacts on population growth and the distribution of new settlement in southern sections of the Flathead Valley. Big Fork, Lakeside, and rural subdivisions the along north end of Flathead Lake will experience substantial growth irrespective of improvements to US 93 (Land Use Advisory Committee, 1993). Potential for new settlement in the Somers area will be enhanced by the recent addition of natural gas service, the expected development of a community sewer system, and the gradual alleviation of environmental problems associated with the nearby Super Fund site. Travel times from Somers, Lakeside, Big Fork, and north lake subdivisions are already rapid enough to support substantial commuting to Kalispell. Proposed highway improvements will reduce travel times by about 1 minute, which is not sufficient to induce major additional development in these areas. Likewise, US 93 alternatives will have little effect on long distance commuter patterns in the north end of the Flathead Valley. Travel times from east and west valley areas to Kalispell and Whitefish will not be sufficiently improved to induce substantial additional commuter oriented settlement. Greatest traveler time savings for commuters will be for persons commuting between Kalispell and Whitefish (an estimated 2 to 4 minute savings).

Improvements to the Somers to Whitefish segment of US 93 will have little influence on population growth or the distribution of new settlement in neighboring counties or the Flathead Indian Reservation. Improvements to US 93 will not sufficiently improve travel times from the reservation and Lake County to cause major noteworthy increases in people commuting to jobs located in Flathead County. Proposed improvements to US 93 from Somers to Kalispell and planned improvements to the "Polson Hill" north of Polson will reduce the travel time between Polson and Kalispell by only about 2 minutes. No other major improvements are planned for US 93 from Somers to Polson. Improvements are proposed areas south of Polson, but these areas are too far from Flathead County job centers to support substantial commuting oriented new settlement.

The northern end of the Somers to Whitefish highway project is on the west side of Whitefish. Planned highway improvements to northern segments of US 93 will have minimal effects on travel times to Whitefish from the north (Jim Weaver, 1993).

Regardless of compensation and procedures designed to reduce relocation impacts on individuals, it is often traumatic to be uprooted from one's home, or place of employment. The build alternatives will displace up to 5 residences and 7 businesses. Highway alternatives will not displace the homes or places of employment of substantial numbers of elderly or handicapped persons, transit dependent persons, members of racial or ethnic minorities, or other special population groups.

4.4.1.1 No-Build Alternative

The No-Build Alternative is opposed by the vast majority of voters responding to the Flathead Valley Voters Survey. The No-Build Alternative will not offer Flathead County residents and visitors relief from the impacts of US 93. Most (73 percent) of Flathead Valley voters surveyed in 1993, felt there are serious problems with current traffic conditions on US 93. The vast majority of voters (86%) felt that traffic conditions will get much worse if improvements are not made to the highway (Flathead County Voters Survey, 1993).

The No-Build Alternative will not require the acquisition of any land and will not directly displace households, yards, recreation areas, or other areas used for human activities. The Montana Department of Transportation has plans to construct improvements to the intersection of US 2 and US 93 in Kalispell irrespective of which US 93 alternative is selected. The MDT's intersection project will displace up to 3 small businesses.

Predicted population and economic growth in Flathead County and increases in tourist and drive through traffic will cause increased traffic congestion along the Somers to Whitefish corridor, and will increase travel times, stress, and inconveniences and worsen safety conditions for vehicle operators, passengers, pedestrians, and bicyclists. In Whitefish, many children must cross US 93 to walk or bike to school grounds. Increased traffic on US 93 will heighten traffic hazards for these children. Congestion also will cause vehicles to operate less efficiently, exposing vehicle operators and pedestrians, persons living and working at near the highway to greater amounts of automobile noise and air pollution. Congestion will also lower the fuel efficiency of vehicles. Increased congestion will impair resident and visitor access to community services and facilities, and intensify the traffic barrier to pedestrian and bicycle movements in central business districts and neighborhoods.

Inside Kalispell and Whitefish and in rural areas, traffic congestion and delays will further encourage drivers to use parallel city streets and county roads to avoid driving on US 93. Use of city streets and county roads for drive-through travel will heighten traffic impacts to residential neighborhoods and rural areas, and make it less comfortable walk and bicycle in these areas. Increased traffic may also create traffic barriers between neighborhoods and depreciate residential property values. Increased traffic on rural roads also will create additional obstacles for agricultural vehicles using county roads.

As congestion increases on US 93, it will further delay response times and create additional hazards for local police, fire, and ambulance vehicles responding to emergencies.

4.4.1.2 Impacts Common to Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO)

The right-of-way needed to construct Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO) will be the same for highway segments located inside of the cities of Kalispell and Whitefish. Most road improvements will be accomplished within existing highway property, with land acquisition being limited to property needed to widen selected intersections. Some minor adjustments to location of public and private utilities will be necessary in both communities.

Proposed improvements to US 93 in Kalispell and Whitefish will reduce traffic impacts, but congestion will still be a problem during peak periods of travel. By improving traffic flows and turning movements, and upgrading facilities for pedestrians and bicyclists, highway improvements will make conditions better than they will be if no action is taken. Highway improvements will reduce travel times, provide for safer movements, and reduce stress, and inconveniences for vehicle operators, pedestrians and bicyclists.

Improvements to US 93 traffic flows are also likely to decrease drive-through traffic in city residential neighborhoods (caused by drivers using side streets to avoid driving on US 93). Reduced drive-through traffic on residential streets will help to preserve neighborhood character, property values, and facilitate safe pedestrian and bicycle movements within and between residential areas. Highway improvements also will foster faster and safer delivery of emergency services.

People living and working in close proximity to US 93 are already exposed to traffic noise, pollution, loss of privacy, and inconveniences associated with a heavily traveled highway. Conversion of parking lanes to traffic lanes will bring noise and air pollution closer to where people live and work. Impacts due to closer proximity to traffic will be somewhat offset by smoother traffic flows, which will reduce pollution and noise levels emitted from passing vehicles. Improvements to traffic flows will also result in more efficient fuel consumption.

Expansion of in-city traffic lanes will increase the area of exposure to traffic for pedestrians and bicyclists crossing US 93. The dangers to pedestrians and bicyclists due to crossing a wider traffic zone will be partially reduced by improved spacing of highway traffic, and upgrades to crosswalk areas (installation of safety zones), and improvements to in-city bike routes.

People also will be inconvenienced by the loss of on-street parking. This impact will be most prominent in the Kalispell and Whitefish central business districts.

Outside of cities, Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO) will displace a small number of residences and businesses. Highway widening also will bring high speed traffic impacts closer to households and businesses located along rural segments of the corridor.

Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) will reduce travel times, improve driver safety and convenience, and lessen the stress of traveling on rural segments of US 93. These alternatives also will enhance the safety and convenience of entering or exiting the highway from side roads, and business and residential driveways. Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) will reduce the growth in drive-through traffic on rural area roads (caused by drivers using county roads to avoid driving on US 93), which will lessen traffic impacts on rural residential areas and agricultural operations. Bike paths and

improvements to highway shoulders will enhance the safety of school bus, bicycle and pedestrian movements along rural highway segments.

Highway widening will supplant small amounts of land from numerous agricultural parcels (see 4.3: Farmland). Displacement of crop and grazing areas at the edges of fields will not by itself necessitate the discontinuation of family farm operations.

Most relocation of electrical and natural gas transmission lines occurred previously in anticipation of the widening of US 93.

4.4.1.3 Impacts Which Differentiate Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO)

Widening US 93 will bring highway traffic impacts closer to households living adjacent to the highway corridor. Differences in the traffic impacts of Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO) will occur along rural highway segments. Households living closer to the highway will generally experiencing the most severe impacts. Impacts which could occur include increases in noise, decreases in property value and increases in visual impact. Alternative A(MEDIAN) will cause the right-of-way to be within 15.25 meters (50 feet) of 13 residences and within 15.25 to 30.5 meters (50 to 100 feet) of 38 residences. Alternative A(TURN-LANE) will cause the right-of-way to be within 15.25 meters (50 feet) of 18 residences and within 15.25 to 30.5 meters (50 to 100 feet) of another 30 residences. Alternative A(COMBO) will cause the right-of-way to be within 15.25 meters (50 feet) of 13 residences and within 15.25 to 30.5 meters (50 to 100 feet) of another 38 residences. Proposed improvements will not cause appreciable changes in highway impacts to households living greater than 30.5 meters (100 feet) from the new highway rights-of-way.

Expanding US 93 from two to four lanes and the associated reduction in traffic congestion will improve the safety and convenience of US 93 access and egress. The center median used in rural segments of Alternative A(MEDIAN) will prevent left turns to and from US 93 except where left turn bays and turning zones are provided, and will increase travel times for persons traveling to and from residences and commercial locations in mid-block areas. The center turn lane provided for in Alternative A(TURN-LANE) will provide two-directional access and egress for businesses and residences along most rural segments of US 93. Most rural segments of Alternative A(COMBO) will be built with a center median, which will limit left turn movements except at intersections and in turning zone areas. South of Kalispell, Alternative A(COMBO) will be built using a five-lane design, which provides direct left turn access to businesses and remaining residences located along this commercial-industrial segment of highway.

Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO) will also improve the travel times and the safety of emergency vehicle operations on highway rural segments. Alternative A(TURN-LANE) will allow law enforcement vehicles, ambulances, and fire truck operators to use the center lane to pass congested vehicles and is preferred by emergency vehicle operators. Alternative A(TURN-LANE) also will facilitate left turning movements along most rural highway segments. Depending on the characteristics of center medians, Alternatives A(MEDIAN) and A(COMBO) may restrict cross-traffic turns in areas where turn bays or turning zones are not provided, **although special locations could be designated for emergency vehicle crossing areas.**

Alternatives A(MEDIAN) and A(COMBO) will have a slightly lessened effect on the Happy Valley community area. Approximately 20 residences which are immediately adjacent to US 93 will be approximately 6.1 to 9.15 meters (20 to 30 feet) further away with Alternatives A(MEDIAN) and A(COMBO) since the alignment is offset to the west in this area.

Concerns were expressed during the public review process about increased traffic on Antelope Trail Road. Alternatives A(MEDIAN) and A(COMBO) both assume that traffic accessing the residences and some businesses in the vicinity of Meadows Road and Hodgson Road will use Antelope Trail Road in addition to US 93. This will result in some increased traffic on Antelope Trail Road, with accompanying increases in noise and some degradation of neighborhood character. These alternatives have been planned with full-turning movement intersections approximately every 0.80 kilometer (one-half mile) so through traffic will not need to continue on Antelope Trail Road.

The center median provided for in Alternatives A(MEDIAN) and A(COMBO) may create an obstacle to farm machinery movements along US 93.

Concerns were expressed during the public review process about the social impacts of the various alternatives on a community's sense of "place." There are social values (such as feelings of stability or security) to residents of an area that may be associated with the sense of community character or identity. Community character or identity is generally defined by that which differentiates one community from another and may include scenic views or other visual assets. To the extent that one alternative or another may contribute to the loss of elements which make up community character or identity, that alternative may have greater social impact, or loss of social values such as feelings of stability or security.

4.4.1.4 Impacts Common to Alternatives B(MEDIAN) and B(TURN-LANE)

Alternatives B(MEDIAN) and B(TURN-LANE) call for development of a bypass highway which will divert much of the drive-through personal vehicle traffic and commercial truck traffic to the west of Kalispell. The bypass will reduce the amount of through traffic and truck traffic on US 93 inside the City of Kalispell; thus will lessen traffic congestion, speed up travel times, improve driver safety, and improve the convenience and lower the stress for city drivers, pedestrians, and bicyclists. A bypass will meaningfully reduce traffic impacts in the Kalispell downtown area, making the area more accessible for drivers and providing for more convenient and safer pedestrian movement. The rerouting of trucks and drive through vehicles will lessen highway noise and air pollution within the city; thus improving the aesthetics of the downtown area.

Improvement of traffic flows on US 93 through Kalispell also will decrease drive-through traffic in city residential neighborhoods. Reduced use of residential streets by drive-through traffic will help to preserve residential character, property values, and facilitate safe pedestrian and bicycle movements within and between neighborhoods.

The lessening of in-city traffic congestion will also improve response times and the safety of emergency services operations.

Alternatives B(MEDIAN) or B(TURN-LANE) will bring auto and truck noise, air pollution, and the physical presence of the highway into agricultural and rural residential areas. Persons farming or residing near the bypass route will experience much less pastoral working and living environments and will have to make lifestyle adjustments to accommodate living near a heavily traveled roadway.

The segment of Alternative B(MEDIAN) or B(TURN-LANE) south of Foy's Lake Road will displace one business and no households, and the highway right-of-way will be within 15.25 meters (50 feet) of two residences and 30.5 meters (100 feet) of one residence.

Between Foy's Lake Road and US 2, the alignment will cross through an industrial properties, and may result in the dislocation of one industrial employer.

North of US 2, Alternative B will traverse areas in transition from an agricultural to residential land uses. Development of this segment of the bypass will not displace any existing residences or businesses. From US 2 to West Reserve Drive, the bypass right-of-way will pass within 15.25 meters (50 feet) of three residences and between 15.25 and 30.5 meters (50 and 100 feet) of another three residences. The north side of West Reserve Drive is developed at urban residential densities. The bypass right-of-way will pass within 15.25 to 30.5 meters (50 to 100 feet) of numerous single family houses and apartment dwellings. Bypass traffic and road alignments which split agricultural fields will have disruptive effects on farming operations north of US 2, and may encourage more rapid conversion of family farms to residential land uses.

4.4.1.5 Impacts Which Differentiate Alternatives B(MEDIAN) and B(TURN-LANE)

Alternatives B(MEDIAN) and B(TURN-LANE) will use the same alignments and right-of-way area. The center lane provided in Alternative B(TURN-LANE) will allow emergency vehicle operators to use the center lane to pass congested vehicles. Alternative B(TURN-LANE) also will facilitate left turning movements along most rural highway segments. Depending on the characteristics of center medians, Alternative B(MEDIAN) may restrict cross-traffic turns in areas where turn bays or turning zones are not provided.

4.4.1.6 Impacts Common to Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)

Development of a Baker Avenue couplet will reduce the amount of traffic carried by Spokane Avenue and Second Street east of the US 93-Baker Avenue intersection. The division of highway traffic on to two roads will reduce traffic congestion; and improve travel times, driver safety, and access to businesses an services along the existing US 93 corridor. The couplet system also will reduce highway noise and air pollution, and improve the fuel efficiency of vehicles operating along the existing US 93 alignment. Reduction of congestion will also benefit pedestrian and bicyclist safety. The dangers to school children crossing Spokane Avenue will be diminished. The lessening of traffic congestion on Spokane Avenue and Second Street will allow the Whitefish Central Business District to become more congenial to pedestrians. Road design improvements and the lessening of in-city traffic congestion will also improve response times and the safety of emergency services operations in Whitefish.

Proposed improvements to Baker Avenue will not displace any households or businesses, and will not take property from the front of residences and businesses located along the roadway.

The development of Baker Avenue as a parallel highway corridor will bring highway traffic, auto and truck noise, air pollution, and the physical presence of the highway into a low intensity commercial area and residential areas. Conversion of Baker Avenue from a local collector street to a highway will noticeably change the character of adjoining neighborhoods. Couplet development will also eliminate on-street parking for houses and businesses located along Baker Avenue.

Transformation of Baker Avenue into a highway will create a new traffic obstacle within Whitefish, which will partition neighborhoods south of the central business district into east and west sectors and create a new barrier to pedestrian and bicycle movement. School children living on the west side of Baker Avenue will need to cross both Baker Avenue and Spokane Avenue (existing US 93) to walk or bicycle to school.

If Spokane Avenue and Baker Avenue are designated as north and southbound one-way couplets, residents of the Baker Avenue neighborhood south of the Whitefish River will be unable to drive north across the Baker Avenue Bridge. This neighborhood will become more isolated from the rest of the city. Its residents will be inconvenienced by having to travel roundabout routes to access shopping and services in the city's central business district. Designation of one-way couplets also will change local travel patterns in other Whitefish neighborhoods residents. The one-way couplet system will increase the use of CBD cross streets and neighborhood streets by local drivers.

4.4.1.7 Impacts Which Differentiate Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)

Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-4) will cause the right-of-way of the southbound couplet to be within 15.25 meters (50 feet) of six residences and 30.5 meters (100 feet) of another 12 residences. The right-of-way of Alternative C(COUPLET-3) will be within 15.25 meters (50 feet) of five residences and between 15.25 and 30.5 meters (50 and 100 feet) of another three residences. Alternative C(COUPLET-3) will result in a new road segment and bridge being constructed through a undeveloped wetland area used for dispersed recreation by nearby residents. If Baker Avenue is designated as a one-way southbound couplet, Alternative C(COUPLET-3) will provide the most convenient access to the Whitefish central business district for persons living south of the Whitefish River.

4.5 Relocation

4.5.1 Right-of-Way Impacts

The discussion of relocation impacts focuses on residences and businesses located inside the proposed rights-of-way of highway alternatives. Alignments for Alternatives A and B will directly displace a small number of housing units and businesses. Alternative C alignments will not displace any residences or business buildings.

All dwelling units potentially displaced by the project are detached single family houses. At least one of these houses is a rental unit. All commercial buildings displaced by the highway project support single occupant business operations. Employment at potentially supplanted businesses range from less than 5 to between 15 and 20 employees. Demographic and socioeconomic characteristics of small numbers of affected households and business employees are not discussed in environmental impact statements to protect personal privacy.

Right-of-way requirements **for the preferred alternative** are shown in Table 4-8. These quantities include right-of-way needed for a separated bikepath. **The quantities in Tables 4-8 and 4-9 are approximate and based on design prepared to a conceptual level of detail. They do not include temporary or permanent easements which may be needed for fill/cut slopes or construction work. These will be determined during the final design process.**

Table 4-8
Approximate Right-of-Way Requirements
Hectares (Acres)

Segment	Quantity Required
MT 82 to Rocky Cliff Road	2.84 (7.01)
Rocky Cliff Road to Airport Road	8.02 (19.81)
Kalispell Bypass	36.32 (89.68)
Airport Road to Ninth	0.004 (0.01)
Ninth to Grandview	0.0 (0.0)
Grandview to MP 117	1.25 (3.09)
MP 117 to MP 122.7	13.87 (34.24)
MP 122.7 to MT 40	0.41 (1.0)
MT 40 to Whitefish River	0.0 (0.0)
Whitefish River (South) to Whitefish River (West)	0.17 (0.41)
Whitefish River (West) to MP 133	6.52 (16.1)
TOTAL	69.40 (171.35)

Right-of-way required for particular design elements is:

- Standard highway right-of-way: Approximately 58.57 hectares (144.61 acres)
- Intersections: Approximately 3.72 hectares (9.19 acres).
- Frontage Roads: Approximately 0.85 hectare (2.1 acre).
- Special design features: Approximately 1.11 hectare (2.75 acres).
- Park-n-rides: Approximately 1.22 hectares (3.0 acres).
- Separated bikepath: Approximately 3.93 hectares (9.7 acres).

Table 4-9 includes information about displaced housing units and businesses.

Table 4-9
Number of Displaced Housing Units and Businesses
(for Preferred Alternative)

Segment	Housing Units	Businesses	Outbuildings
MT 82 to Rocky Cliff Road	0	0	0
Rocky Cliff Road to Airport Road	2	2	1
Kalispell Bypass	3	3	1
Airport Road to Ninth	0	0	0
Ninth to Grandview	0	0	0
Grandview to MP 117	0	0	0
MP 117 to MP 122.7	3	1	0
MP 122.7 to MT 40	0	0	0
MT 40 to Whitefish River	0	0	0
Whitefish River to MP 133	0	0	0
TOTAL	8	6	2

4.5.2 Impacts which Differentiate Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO)

Alternatives A(MEDIAN) and A(COMBO) will displace **five** houses. These units are located along US 93 between Ball's Crossing and Kalispell, and between Reserve Drive and Bowdish Road.

Alternatives A(MEDIAN) and A(COMBO) will displace **three** businesses, including a **second-hand store**, a recreation vehicle dealership and one auto repair operation. Alternative A(TURN-LANE) will **also** displace **the second-hand store, the recreation vehicle dealership and the junkyard**. Alternative A(FOUR-LANE) will displace a photo processing establishment and a pizza store. C(OFF-SET) will displace a photo processing establishment.

Alternative A(MEDIAN) will displace an estimated 61 acres of agricultural land, Alternative A(TURN-LANE) will remove less than 0.405 hectare (one acre) of agricultural land, and Alternative A(COMBO) will displace 24.3 hectares (60 acres) of agricultural lands. The agricultural lands to be displaced by the highway project will be located on the edges of fields. Expansions of the highway right-of-way will reduce farm and ranch productivity, but should minimally affect agricultural operations on remainder parcels, and will not necessitate the discontinuation of any family or corporate farming operations.

4.5.3 Impacts which Differentiate "B" Alternatives

A west bypass of Kalispell, will cross a mix of agricultural, rural residential, and industrial properties. The relocations required to develop Alternatives B(MEDIAN) or Alternative B(TURN-LANE) will be the same, since the same right-of-way area is required.

Alternative B (from US 93 to Foy's Lake Road) will supplant 4.34 kilometers (2.7 miles) of railroad track and railroad right-of-way. Just south of Foy's Lake Road the alignment will the displace the operations building and storage yard of a construction contractor. Only about 1.22 hectares (three acres) of agricultural land and **three** residences will be displaced by Alternative B.

The bypass route crosses through a lumber yard/milling operation, where the route will supplant three large open walled buildings used for storing lumber, materials, and equipment. The highway would also supplant grounds used for storing inventory and conducting lumber yard operations. The disruptive effects of the bypass on this business operation may necessitate the lumber yard's relocation. North of US 2, the bypass route will directly displace an estimated 10.94 hectares (27 acres) of agricultural land, most of which is used for growing small grains. A portion of this bypass segment will be routed diagonally across fields, which may render remainder parcels too small or remote to be economically farmed. Where this occurs, the bypass development could result in discontinuation of family or corporate farming operations.

4.5.4 Impacts which Differentiate Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), AND C(COUPLET-4).

None of the Alternative C alignments will displace residences or commercial buildings. Alignments C(COUPLET-2) and C(COUPLET-4) will remove about .81 hectare (two acres) from a gravel pit area, portions of which are owned by the State of Montana and a private business person. Gravel from the pit area may be purchased for highway construction.

4.5.5 Mitigation

In an effort to make property acquisition as equitable as possible, standards have been developed to ensure adequate consideration and compensation for persons whose property is required for public improvement projects.

Property which is required for construction of a federal highway will be subject to the provisions of the Public Law 91-646, as amended by Public Law 100-17. Public Law 91-646 is the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended). This is a federal law. The Public Law 100-17 is the Surface Transportation Act of 1987 which amended certain provisions of P.L. 91-646. It also is a federal law.

Provisions of the current Intermodal Surface Transportation Efficiency Act (ISTEA) H.R.2950 have included all references to the Uniform Relocation Assistance Act and Real Property Acquisition Policies Act of 1970, and these provisions require compliance with Title VI of the Civil Rights Act of 1964 (H.R.2950-34, Section 1017 Acquisition of Rights-of-Way).

It is the policy of the Montana Department of Transportation that no person will move from their dwelling until a comparable replacement dwelling has been made available to that person. A comparable replacement dwelling is safe, decent, and sanitary. The replacement housing must also be open to persons regardless of race, color, religion, or national origin.

Under most circumstances, persons residing in mobile homes will be eligible for relocation payments as will relocates who live in conventional dwellings. Relocates will be eligible to receive referrals of available replace properties, assistance in filing claims and other reasonable assistance necessary to assure successful relocation. Comparability will be based primarily on functional rather than physical similarity. Occupants of residents and businesses are entitled to receive reasonable and necessary moving costs and related expenses in relocating their personal property, provided the established procedural requirements of the Montana Department Transportation are followed.

Right-of-way needed from the Burlington Northern (BN) rail line for Alternative B(MEDIAN) and B(TURN-LANE) will need to follow a process initiated by BN through the Public Service Commission and Interstate Commerce Commission to seek approval for abandonment of the rail line. **If shippers are still being served by rail at the time right-of-way is needed, this FEIS assumes either the shippers would be purchased or their shipping rights would be compensated by MDT since this is right-of-way required to build the bypass.**

4.5.6 Availability of Replacement Real Estate

The 1990 Census listed 4,145 residential vacancies, of which 2,517 were reported as seasonally vacant (US Department of Commerce, 1991). The high percentage of seasonal vacancies housing units reflects the prevalence of ski-season and summertime second home residents in the Flathead area. Seasonally occupied units are generally not available to for occupancy by year-round residents.

The 1990 Census reported the median value of owner occupied housing to be $64,200 and the median rent to be $332. Since the census, Flathead County has experienced a period of vigorous population growth. Robust demand for housing has increased the market values of housing units and costs for rental housing. The median

sales price for a house sold in 1993 is estimated to be about $88,000, a 38 percent increase since the census. (Jim Kelly, 1993).

Table 4-10 illustrates that 952 housing units were on the market in Flathead County in December of 1993, which is about 3 percent of the county-wide housing stock. The asking price for the majority of houses for sale in Flathead County exceeds $100,000. The number of houses for sale in Flathead County tends to increase during summer months.

Table 4-10
Houses for Sale in Flathead County by Asking Price
December, 1993

Asking Price	Number of Units
less than $50,000	54
$50,000 to $79,999	144
$80,000 to $99,999	140
$100,000 to $119,999	68
$120,000 to $139,000	103
$140,000 to $159,999	43
$160,000 to $179,999	65
$180,000 to $199,999	58
$200,000 to $249,999	79
$250,000 to $299,999	78
$300,000 to $399,999	60
$400,000 to $499,999	16
$500,000 and greater	44
Total Housing Units For Sale	952

Source: Flathead Board of Realtors, Flathead Multiple Listing Service, December, 1993.

The market values for most of the houses potentially displaced by the highway project are expected to be less than $100,000, with 1 or 2 of the units being in the less than $50,000 value range. Moderate and low cost housing are the least procurable part of the Flathead County housing market (Shirley Schmidt, 1993). It is noteworthy, that only 30 percent of housing units for sale at the end of 1993 were priced in the $50,000 to $100,000 range, and only 6 percent were priced at less than $50,000. In the Kalispell area there were 93 housing units for sale in the $50,000 to $100,000 range and 7 houses selling for less than $50,000. In the Whitefish area there were 33 units for sale in the $50,000 to $100,000 range and 1 house selling for less than $50,000 (Flathead Board of Realtors, 1993).

The highway project could displace one moderate cost rental unit (a detached single family home). Low and moderate income rental housing is generally in short-supply in Flathead County. This is particularly true for single family housing units in the less than $500 a month price range (Shirley Schmidt, 1993).

In December 1993, there were 108 commercial properties for sale in Flathead County, with asking prices ranging from $23,700 to $2.6 million. Most commercial properties which are for sale are located in the Kalispell and Whitefish areas (Flathead Board of Realtors, 1993).

4.6 Economic

4.6.1 General Impacts

Flathead County will experience substantial economic growth irrespective of whether or not improvements are made to US 93. From 1990 to 2015, average annual employment is forecasted to increase from 32,000 to 51,000. Increases in employment and commerce will add considerably to the transportation demands placed on US 93 and other major roadways in Flathead County.

US 93 alternatives will not meaningfully affect trends for growth and decline in Flathead area's key basic industries or the overall growth in the area's economy. By affecting the distribution of traffic on area roadways and the accessibility of business districts and individual businesses, highway alternatives will have some influence on the geographic distribution of economic growth within the county. Retail and service businesses catering to drive-through travelers, tourists, and serving local and regional trade are most susceptible to changes in highway conditions. Businesses gaining superior access to customer markets will enjoy competitive advantages over rival businesses with less advantageous access. Market values for business properties benefiting from improved access will increase.

Highway alternatives which influence the geographic distribution of new investments in residences and businesses will also have minor influences on the distribution of the local property tax base. Highway alternatives will not affect overall trends in the county-wide tax base, but may affect which cities, school districts, other special taxing jurisdictions benefit from new investments. The "build" alternatives will permanently remove a small amount of agricultural land from production, taxes paid on this land will be lost to local taxing jurisdictions. The small number of residences and businesses displaced by the "build" alternatives will be replaced by new investment in homes and businesses.

Improvements to US 93 which reduce travel times and contribute to more efficient operation of vehicles will lessen the costs of doing business in and through Flathead County. Improvements in highway safety conditions will reduce personal and business economic losses due to traffic accidents.

4.6.2 No-Build Alternative

The No-Build Alternative will not directly displace any business buildings, parking areas, agricultural land uses. However, the No-Build Alternative will provide no relief from traffic problems on US 93. As US 93 traffic increases, congestion will slow travel times for local, regional, and international commerce and contribute to less efficient operation of commercial vehicles; thus increasing the costs of doing business in and through Flathead County. Deterioration of highway safety conditions will also contribute to increases in the incidence of traffic accidents and result in greater personal and business economic losses due to accidents.

The effects of increasing traffic on US 93 will vary from business to business depending on type of business and individual access situations. Where keen competition exists among businesses, these establishments becoming less accessible are likely to lose potential customers to rival businesses in more convenient locations. For example, tourists and drive-through travelers may delay stopping to purchase gas or food at difficult to access locations, but will eventually make these purchases at more convenient locations elsewhere in the county.

Worsening of traffic congestion will limit the ability of businesses in downtown Kalispell and Whitefish to fully benefit from growth in the area's population and economy. Particularly in summer months, drivers will have increasing difficulty in making left turns and performing parking movements in central business districts.

Increasing congestion may further encourage local residents to use side streets to circumvent driving on US 93 through main street businesses areas. Traffic, noise, and pollution will detract from the aesthetics of the downtown areas, which may dissuade tourists from stopping.

Business growth along commercial strips in Kalispell and Whitefish also will be limited by congestion and impeded turning movements. Businesses along US 93 commercial strips will become increasingly oriented to serving one-directional traffic. For businesses located along rural areas US 93, growth in highway traffic speeds and the absence of traffic signals and turning bays will further confound customer ingress and egress to business locations.

Traffic congestion and access problems will influence where new commercial investment occurs along the US 93 corridor. Business locations where traffic signals or turn bays are provided will enjoy location advantages over areas where turning movements are less protected. Congestion and access constraints on US 93 also will divert business investment to alternative Flathead County highways providing better conditions for customer access.

Increases in traffic congestion will also discourage growth in truck oriented industrial operations along the US 93 corridor.

4.6.3 Impacts Common to Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO)

Alternatives A(MEDIAN), A(TURN-LANE), and A(COMBO) will enhance the ability of businesses located along the US 93 corridor to benefit from overall expansion of the Flathead County economy. None of the design alternatives will fully reconcile the obstacles to business growth created by traffic congestion problems or constraints to customer turning movements. Proposed improvements will make conditions for US 93 businesses better than if no improvements are made. All three alternatives will allow for a greater volume of drive-by traffic and generally improve customer access for businesses located along the corridor. Nearly all businesses located adjacent to US will benefit from improved customer access due to better traffic spacing and improvements in right turning movements. Improvements will help to make US 93 businesses more competitive with other Flathead area businesses.

Improvements to US 93 through Kalispell and Whitefish will be accomplished by redesigning traffic lanes, restricting on-street parking, upgrading crosswalks, and reconstructing key intersections. Driving in the Kalispell and Whitefish central business districts will be more convenient and less stressful for tourists and local shoppers. Improvements to crosswalk areas will be particularly beneficial in central business district areas, because of heavy use by of downtown areas by pedestrian tourists, local shoppers, and business persons.

Outside central business district areas, better traffic spacing, and improvements at intersections, development of center turn lanes and turn bays will enhance customer access and egress from highway businesses. Improvements will cause additional business growth along the commercial strips in Kalispell and Whitefish. Smaller commercial nodes on US 93 also will benefit from the addition of traffic lanes and turning zones.

Reconfiguration of traffic lanes through Kalispell and Whitefish will eliminate on-street parking. Adverse impacts will be greatest for downtown businesses where substitute parking is unavailable on side streets, or in nearby city or private parking lots. The loss of on-street parking also will pose problems for some individual businesses located outside of central business districts. However, most businesses outside of central business areas have access to off-street parking areas.

US 93 will still route high volumes of drive-through traffic and truck traffic through the downtown areas of Kalispell and Whitefish. During the peak travel periods, and traffic congestion will detract from the aesthetic appeal of downtown areas to tourists and inhibit left turning along most of the highway corridor.

4.6.4 Impacts which Differentiate Alternatives A(MEDIAN), A(TURN-LANE), A(COMBO)

4.6.4.1 General

Development of Alternatives A(MEDIAN) and A(COMBO) will displace an estimated **three** businesses, employing an estimated **30** persons. Owners will be compensated for the value of businesses property displaced by the highway project, and will also be eligible to receive funds to relocate their businesses. Individual owners will decide whether or not they will re-open their businesses. **Crop and grazing land displaced by Alternative** A(COMBO) will not have important effects on overall productivity of the county's agricultural sector, but will reduce the earnings of individual farms and ranches.

A four-lane divided highway will limit left-turn movements to turn bays, whereas a five-lane highway will allow for left-turns at most business locations along the corridor. Business most affected by convenience will be businesses selling highly competitive (readily available) and relatively low cost goods and personal services. For example, gas stations/convenience stores, fast food restaurants, and hotel/motel services rely on spontaneous purchasing decisions by potential customers, and sales are affected by convenience of access. **The design detailed in Appendix A, however, provides for full turning movement intersections at most if not all of such businesses currently located along US 93**. Less affected will be specialty retail, personal service businesses (medical), and general retail (grocery and discount) stores; where consumer decisions also consider costs and qualities of goods and services. Convenience of access has little effect on purchasing patterns for expensive durable goods such as automobiles.

Differences in the effects of the design alternatives on business growth will be greatest along the commercial strips south of Kalispell and Whitefish. The A(MEDIAN) alternative favors businesses near where left-turning bays are provided, and is likely to promote additional business growth near intersections. The center median employed by Alternative A(MEDIAN) will create a physical barrier which will prevent spontaneous left turns and inhibit customer access to businesses in mid-block areas. Alternative A(MEDIAN) will favor higher density business development patterns and will encourage cooperation among business property owners in the development of common driveways and parking. Alternative A(MEDIAN) is likely to result in greater growth in business property values near intersections, and slower growth for properties in mid-block areas.

By allowing direct left-turn access into virtually all business locations along US 93, Alternative A(TURN-LANE) will help to evenly distribute the business opportunities created by general market growth along the US 93 corridor. A five-lane highway will encourage less dense and more irregular business development patterns. Businesses property owners will be more likely to develop driveways and parking areas which function independently of other businesses. As traffic congestion increases along US 93, the advantages of direct left turn access into to business properties will be reduced.

Alternative A(COMBO) uses a five-lane highway design **south of Kalispell**, within Kalispell and Whitefish, but maintains four-lane divided highway in rural areas. Alternative A(COMBO) will help to evenly distribute the business opportunities created by general market growth within cites and south of Kalispell. In rural areas, Alternative A(COMBO) is likely to promote additional business growth near intersections.

Recent enactment of restrictive zoning along US 93 between Kalispell and Whitefish will reduce the influence of highway design alternatives on businesses development patterns along this highway segment. Zoning will restrict development of new commercial and industrial land uses along the corridor. Zoning does allow for some expansion of existing land uses. Alternatives A(MEDIAN) and A(COMBO) will encourage additional business growth where turning bays are provided and restrain growth where left turn access is available. Alternative A(TURN-LANE) will provide improved left turn access for nearly all existing business properties, and will more evenly distribute the business development benefits of growth in traffic. These improvements may degenerate over time, however, as the level of service degrades.

4.6.4.2 Impacts of Strip Development on Tourism

Further proliferation of strip development along US 93 has the potential to detract from the visual enjoyment provided to tourists driving along US 93 through the Flathead Valley. It may reduce tourism primarily associated with the visual attractiveness of driving through the Flathead Valley, but since this is typically part of an overall package of factors that attract visitors to the Flathead Valley (such as Glacier National Park, Big Mountain, Bob Marshall wilderness area, the lakes) it is likely that the overall impact of increased strip development to the tourism industry will not be significant. The unattractiveness created by further strip development will not, by itself, significantly reduce the growth of the region's tourism industry.

From the perspective of building a stronger tourism industry, strip development is probably not the best use of Flathead area investment capital. For example, tasteful tourist-oriented business investments (hotels, eating and drinking, tourist services) in older sections of the City of Whitefish will add to this community's appeal to tourists; motivating more people to visit this community and prompting visitors to stay longer and spend more. Likewise, additional investment in Kalispell's CBD will serve to enhance this community's viability as a state and national convention center, as well as promoting general growth in tourism.

4.6.4.3 Impacts of Strip Development on Inmigration

Technological changes and economic and other quality of life factors have spurred considerable migration from metropolitan America to high amenity areas in the Rocky Mountain region. The Flathead Valley is one of several areas in the Rocky Mountain west which is experiencing substantial population growth. The natural beauty and social and recreational attributes of the Flathead Valley make the area an attractive place for residents of metropolitan states to relocate.

Many people migrating to the Flathead Valley could choose to live anywhere in the United States. Furtherance of commercial strip development patterns along the US 93 corridor will detract from the visual attractiveness of the Flathead area. Should the haphazard commercial development patterns and other urban sprawl type land use patterns profoundly detract from the visual and aesthetic appeal of the Flathead area, prospective inmigrants may choose to relocate elsewhere. It is noteworthy that strip commercial development is the predominant commercial development pattern in nearly all growing areas of the Rocky Mountain region. At least in the 20-year time horizon addressed in the EIS, it is unlikely that strip commercial development will sufficiently detract from the natural beauty and amenities of the Flathead Valley to significantly affect the area's population growth.

4.6.4.4 Impacts of Strip Development of the Costs of Providing Public Services

The physical form in which new commercial development is created has considerable impact on the total amount of resources (both environmental and economic) needed to accommodate commercial growth. For a fixed amount of commercial development, low density-strip commercial development is likely to be much more expensive in terms of economic costs, environmental costs, and natural resource consumption than denser development located within or adjacent to areas served by existing urban infrastructure and human services.

Strip commercial development increases the amount of right-of-way necessary to extend capital services such as community water and sewer systems, city and county roads, and quasi-public utility services (electricity and natural gas). Similarly, strip development increases the costs of building public and utility infrastructure by increasing materials, supplies, and labor inputs into construction. The energy and labor necessary to operate and maintain capital facilities and to provide local government human services (such as police, fire and ambulance) are also increased by the greater travel distances and travel times involved in serving strip development.

Strip commercial development maximizes urban intrusion into environmentally sensitive areas by directly converting more land to commercial land uses than would be converted by more consolidated development patterns and extending the range of urban influence. Strip commercial development maximizes direct displacement of agricultural land and indirectly displaces agricultural uses by rendering remaining parcels too small or inaccessible to be economically farmed. Strip development fosters increased energy consumption and air pollution by increasing travel distances for shopping and work trips. Strip development also tends to result in more dispersed turning traffic and may eventually decrease highway level of service.

4.6.4.5 Effect of Access Changes to Market Value

There are no hard data for Montana on the impacts of highway design alternatives on the market values of adjoining properties. The highest potential market value for exurban properties along the Somers to Whitefish corridor is likely to be for commercial land uses. Since 1990, several thousand new residences have been developed in the Flathead Valley. It is notable that very few of these new housing units are located adjacent to the US 93 corridor. The absence of significant new residential development adjoining the highway corridor is consistent with land use patterns along other busy highway corridors in Montana. With the exception of multi-family development on the periphery of cities, lands adjoining Montana's busy highway corridors are not prime lands for residential development. The demand for residential land adjoining the US 93 corridor is limited, and highway design options will have little effect on market values of these properties for housing development.

In recent decades, urban-rural transitional areas along the Somers to Whitefish corridor have proven to be viable locations for commercial development. The US 93 corridor has seen the extension of commercial strip type development to the south of both Kalispell and Whitefish. In addition, spot commercial development has occurred along rural segments of the highway. Given projections for Flathead Valley population and economic growth and predicted increases in US 93 traffic volumes, transitional and rural segments of the Somers to Whitefish corridor are likely to continue provide workable locations for commercial development.

Whether a four-lane divided highway or a five-lane highway (with center turn lane) is developed, highway improvements will improve the quality of access and commercial development potential for transitional and rural properties along the US 93 corridor. Commercial development along two-lane highway segments is already constrained by highway traffic volumes. During the peak travel periods of summer, it is not only inconvenient, but hazardous for vehicle operators to make left turns along two lane highway segments. As traffic volumes on US 93 increase, the problems associated with ingress and egress to and from business and residential properties will be exacerbated.

Zoning

Irrespective of whether a four-lane divided highway or a five-lane highway with a center turn lane is constructed, city and county zoning will affect the developableness and market values of properties along the US 93 corridor. City and county zoning regulations are in place inside cities and along most of the unincorporated segments of US 93 corridor from Somers to Whitefish. The zoning generally allows commercial and industrial land uses to continue to occur to the south of Kalispell. The zoning attempts to preserve the agriculture land uses and open space between Kalispell and Whitefish by restricting new development to very large lot residential-ranchette type development [16.2 hectares (40 acres) and greater].

Kalispell to Whitefish:

The zoning which is in place between Kalispell and Whitefish restricts development of new commercial land uses along this highway segment. In order for land owners to develop new commercial uses between Kalispell and Whitefish, they must gain local government approval of a change in zoning or a variance allowing for commercial development on their property.

The zoning does allow for limited expansion of existing commercial uses between the two cities. By restricting development of new competitive commercial land uses between Kalispell and Whitefish, the zoning may actually serve to heighten the market values for existing properties with "grandfathered" commercial land uses. A four-lane divided highway is likely to provide greatest benefit to existing businesses at intersections and at other locations where turn bays are provided. If turn-lanes are constructed to serve businesses located in mid-block areas, the property value benefits of the divided highway design will be more evenly distributed along the corridor.

A five-lane highway design will tend to distribute the property value benefits of the highway improvements more evenly among existing commercial properties.

South of Kalispell:

Zoning allows for additional commercial and industrial development on the US 93 corridor south of Kalispell. Both a four-lane divided and a five-lane highway will be conducive to commercial and industrial development. Montana has many examples of intensive commercial and industrial development along both four-lane divided highways and five-lane highways. US 2 through the Kalispell-Evergreen area, US 93 south of Missoula, US 12 east-west through the Helena area, and US 191 east-west through the Bozeman area are examples of highway corridors which mix four-lane divided highway and five-lane highway designs. Significant commercial development has occurred

on both the four-lane divided and five-lane segments of these highway corridors. The presence of the divided highway's center median has not prevented commercial development from occurring along the aforementioned highways, and is unlikely to do so along US 93 south of Kalispell.

Whether a four-lane divided highway or five-lane highway is constructed may have some influence on the market values of individual parcels south of Kalispell. As previously discussed, construction of a four-lane divided highway will favor business development at intersections and other places where left turn lanes are provided and will benefit the market values of these properties. Conversely, the divided highway design may constrain the growth in the value of mid-block properties which are not provided with direct cross-lane access.

A five-lane highway design is likely to provide for more dispersed development of commercial and industrial land uses along the US 93 corridor south of Kalispell. As a result, the five-lane highway will more evenly distribute the property value increases among properties. Relative to the divided highway design, the five-lane design is likely to increase the growth in the value of mid-block properties and constrain the value growth for properties at or near intersections.

It is important to recognize that numerous other factors will also influence the market value of properties for commercial land uses. Examples include: the particulars of zoning regulations; parcel size and configuration; parcel visibility from the highway; its visual attractiveness, the nature of adjoining land uses, access to public and private utility services, traffic speeds, and location relative to major cross streets.

4.6.4.6 Effect to Zoning

Development of four-lane divided or five-lane highway will not dictate the type of zoning that is assigned to adjoining properties. Montana has many examples where commercial development has occurred along both four-lane divided and five-lane highways. Development of a four-lane divided highway will not prevent commercial development from occurring on adjacent property. If Flathead area local governments desire to manage land uses along the US 93 corridor they will need to employ land use controls. Irrespective of which highway design is constructed, local government planning and zoning will continue to be the preeminent way of regulating land use along the US 93 corridor.

4.6.5 Alternative B

Alternative B is intended to carry commercial truck traffic and non-stop travelers around the City of Kalispell. The diversion of this traffic will minimally affect Kalispell business sales to tourists and local and regional residents. Alternative B will lessen traffic congestion on US 93 through Kalispell, and will enhance the effectiveness of US 93 lane reconfiguration, intersection improvements, turn lanes and turn bay installations, and crosswalk upgrades. The estimated five percent reduction in traffic carried by US 93, will make it more convenient for tourists and local and regional residents to stop and shop in the Kalispell Central Business District. The diverting of through traffic and truck traffic also will improve the attractiveness of the downtown areas for tourists and resident shoppers. Reductions in drive through traffic volumes will also improve customer access to businesses located on the commercial strip and small business nodes on US 93 in Kalispell.

Some sales to drive-through travelers and truck services will be directed away from business on US 93 in Kalispell. For example, truck stops and business selling fuel and food to drive-through travelers will lose some sales. Most deferred purchases of truck services, fuel and food will be made elsewhere in Flathead County, and the change in purchasing patterns will not effect the area's overall economy.

The southwestern segment of the Kalispell Bypass will be built over the Burlington Northern Rail Spur Line. It will eliminate rail service to areas south of Kalispell. The spur line serves only one customer, an agricultural supply company. Displacement of the rail spur will require that rail shipments to the agricultural supply company be delivered by truck, which will increase the business's costs of purchasing these supplies. The southwestern segment of Alternative B will also displace one construction contractor and remove storage property from a salvage yard. The salvage business will need to relocate salvaged materials. The southwestern segment will also displace 13.37 hectares (33 acres) of agricultural land, mainly used for grazing and hay production.

North of Foy's Lake Road, the bypass will bisect a lumber yard and milling operation, removing 3 support buildings and displacing storage areas for raw and processed timber. The highway route will split the yard and will create a barrier will make it more difficult to carry on connected operations between the two remainder parcels. An at-grade crossing will be constructed where the bypass will intersect Burlington Northern east-west rail line paralleling US 2. The crossing will not affect rail service to nearby businesses, but may occasionally interfere with the railroad's switching operations.

North of US 2, the bypass corridor crosses mainly agricultural land. An estimated 11.34 hectares (28 acres) of agricultural land will be removed from production. Farmland in this area is mainly used for barley and wheat production. The estimated annual production value of this land is ranges from $150 to $300 an acre (Montana Department of Agriculture, Montana Agricultural Statistics Service, 1993). The lost production will not have important effects on overall productivity of county agricultural sector, but will meaningfully reduce the earnings of individual farms.

The north segment of Alternative B also will split numerous agricultural parcels and will increase the costs of farming remainder parcels. Areas west of Kalispell are also being affected by expansion of Kalispell residential development. The combination of highway impacts and urban encroachment will hasten the conversion of this farmland to non-agricultural uses.

Alternative B will increase the commercial development potential and market value for properties located at the bypass's two intersections with US 93 and at its intersection with US 2. The bypass will also increase the selling prices for previously isolated agricultural lands southwest of Kalispell by making them more available for ranchette-type residential development.

4.6.6 Impacts Common to Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), and C(COUPLET-4)

A Baker-Spokane Avenue couplet will continue to route US 93 drive-through travelers, tourists, and local and regional residents through Whitefish business districts. Development of the couplet system will not displace any existing additional businesses. The couplet system will enhance the effectiveness of downtown highway improvements by lessening congestion along the Second Street-Spokane Avenue segments of US 93. The effects of the diversion of southbound traffic on downtown businesses will be counterbalanced by a less stressful driving environment; allowing better visibility of downtown shopping opportunities, improved turning movements, and better access to parking areas. Downtown Whitefish is oriented to serving pedestrian tourists. The lessening of congestion will improve the mobility of this clientele.

The rerouting of highway traffic will encourage the upgrading of commercial properties on Baker Avenue and adjoining side streets. The rerouting of traffic on to Baker Avenue will also improve traveler access to public parking in southern areas of the central business district, which will help to entice travelers and tourists to stop in downtown Whitefish.

4.6.7 Impacts Which Differentiate Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), and C(COUPLET-4)

The major difference between Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), and C(COUPLET-4) will be determined by the location of couplet's the southbound segment with Spokane Avenue. Spokane Avenue business properties located to the north of this intersection will experience a decrease in the market created by highway travel. Alternatives C(COUPLET-1), C(COUPLET-2), and C(COUPLET-4) will favor additional business growth for commercial properties to the south of Columbia Avenue, and will inhibit business growth north of Columbia Avenue. Alternative C(COUPLET-3) will promote business growth south of Seventh Street and inhibit growth north of this intersection. To the extent that alternatives will affect business growth potential along Spokane Avenue, they will also affect market values for commercial properties.

4.7 Pedestrians and Bicyclists

Existing pedestrian and bicycle conditions are described in Section 3.6.

4.7.1 Impacts

4.7.1.1 No-Build Alternative

The No-Build Alternative will result in worsened conditions for pedestrians and bicyclists. As traffic and congestion increases, it will become increasingly difficult to cross US 93 and to use US 93 as a travel corridor for pedestrians or bicyclists. In addition, no provisions are planned to enhance other planned pedestrian corridors in the Flathead Valley.

4.7.1.2 Impacts Common to All Build Alternatives

Overall conditions for pedestrians and bicyclists are projected to be improved by implementation of any of the build alternatives. The build alternatives all include provisions for bicyclists either on the shoulder or on a separate bike path. As described in Section 2.4.4.2, special accommodations are being planned to facilitate easier pedestrian crossing of US 93. This will improve pedestrian safety as well. In addition, bridges are planned at the crossings of Ashley Creek, specifically to accommodate plans for future pedestrian and bicycle use of the railroad corridor west of the Ashley Creek crossing.

4.7.1.3 Alternatives A(MEDIAN) and A(COMBO)

Alternatives A(MEDIAN) and A(COMBO) will have improved conditions for pedestrians since the median area can be used as a refuge for pedestrians crossing US 93. Alternative A(TURN-LANE) has no such refuge area.

The preferred alternative includes a separated bikepath along US 93 as much as possible.

4.7.1.4 Alternative A(TURN-LANE)

Alternative A(TURN-LANE) will **have substantially degraded** conditions for pedestrians, since no median refuge area for pedestrians crossing US 93 will be provided **and since a much wider paved area will need to be crossed**.

4.7.1.5 Whitefish Alternatives

Alternative C(COUPLET-3) includes a designated on-street bike lane and sidewalks on both Spokane and Baker with bicycle travel on Spokane northbound and Baker southbound, which will improve conditions for pedestrians and bicyclists in Whitefish. The 7th Street extension across the Whitefish River will also improve circulation for east-west movement. **However, no bike lanes are provided along Spokane between Seventh and Columbia or on Second Street. Bicycles can be accommodated on the wide sidewalk over the new Seventh Street bridge.**

4.7.2 Mitigation

The following mitigation will be implemented:

1. Continued coordination with Flathead County bicycle groups to determine the best location and design of bicycle facilities.

4.8 Air Quality

Existing air quality conditions are described in Section 3.7.

4.8.1 Methodology

The anticipated effects of No-Build and Build alternatives on particulate matter that is less than ten microns in diameter (PM10) emissions are considered. The analysis has been conducted in accordance with 40 CFR Parts 51 and 93, *Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act*, EPA, November 1993.

The methodology for the air quality analysis has been developed and approved through consultation with EPA, MDT, MDHES and FHWA. Consultation letters are in Volume II.

The major components of PM10 emissions in the Flathead Valley are re-entrained road dust and smoke produced from residential wood burning. Population and employment growth can be expected to affect both the amount of re-entrained road dust and the amount of wood smoke in the valley. Different alternatives for the US 93 Corridor can be expected to produce variations in the amount of re-entrained road dust. Therefore, this analysis focuses on projected PM10 emissions due to re-entrained road dust. Tailpipe exhaust from vehicles also produces low levels of PM10 emissions and these emissions of PM10 are also included in this analysis.

Re-entrained road dust and tailpipe emissions are affected by vehicle-miles-traveled (VMT). VMT is vehicles per day multiplied by distance in miles. VMT can be summed by functional classification and road segments over a region to obtain regional VMT.

Re-entrained road dust and tailpipe emission factors for PM10 were developed in consultation with MDHES and EPA. The factors for re-entrained road dust are classified by road functional classification. Emission factors are inversely proportional to functional classification. Factors for local streets are higher than those for collector streets, which are in turn higher than those for arterial streets. Re-entrained road dust emission factors also vary by season. Emission factors are higher during winter and early spring than during other seasons because sanding material is applied to roads resulting in increased re-entrained road dust. Tailpipe emission factors do not vary by functional classification nor season. PM10 emission factors are provided in Table 4-11.

Table 4-11
PM10 Emission Factors

Functional Classification	Re-Entrained Road Dust Emission Factor (lbs./VMT)		Tailpipe Emission Factor (lbs./VMT)
	Kalispell (Winter/Spring)	Whitefish (Spring)	
Local	0.0923	0.2855	NA
Collector	0.0874	0.1029	NA
Arterial	0.0522	0.0968	NA
Total	NA	NA	0.000335

NA - not applicable.

VMT figures by functional classification were estimated using the QRS II transportation model which was developed to produce traffic forecasts for this study. The area covered by the model is bounded approximately by the Flathead River on the east, Flathead Lake on the south, Farm-to-Market Road on the west, and Whitefish Lake and the Big Mountain Ski Area on the north. This area is larger than that contained within the Kalispell and Whitefish PM10 nonattainment areas. Therefore, links within the nonattainment areas were specially coded for their functional classifications and nonattainment areas in order to calculate VMT and PM10 emissions by functional classification and nonattainment area.

Two land use subcommittees developed assumptions regarding the distribution of projected population and employment growth. These include the proposed expansion of the Big Mountain Ski Area. Details regarding future land use projections are included in Section 3.1.5. The forecast population and employment data were used to produce 1998, 2005, and 2015 traffic forecasts. The models forecast summer daily traffic volumes. Population and employment projections being used in this analysis include any effect that completion of the build alternatives may have upon growth.

4.8.2 Impacts: PM10 Regional Emissions Analysis

VMT figures were estimated for a base year of 1993 and for No-Build and Build alternatives for 2005 and 2015. In addition, VMT figures were estimated for the No-Build Alternative for 1998 in Whitefish. The analysis years were chosen by EPA and MDHES. The Build Alternative includes projects which are both regionally significant and financially feasible, as defined in 40 CFR Parts 51 and 93, for 1998, 2005, and 2015. These projects were determined through a consensus among C&B, FHWA, MDT, MDHES, and EPA. These projects are shown by year below.

1998: US 2, Reserve to south of Glacier Park International Airport, widen from two to five lanes.
Baker Avenue, 10th Street to Commerce Street, construct new two-lane street.

2005: Meridian Road, Idaho Street to Three-Mile Drive, widen from two to four lanes.
Meridian Road, Three-Mile Drive to US 93, widen from two to three lanes.

2015: LaSalle Drive, Conrad Drive to MT 35, construct new two-lane street.

In addition, for Build alternatives, it was determined that US 93 improvements through the existing rural corridor (Alternative A), through Kalispell along Main Street (Alternative A), and through Whitefish along Spokane Avenue, Baker Avenue, 2nd Street, and 7th Street (Alternative C) are regionally significant and financially feasible for 2005. The US 93 Bypass around Kalispell (Alternative B) is regionally significant and financially feasible for 2015.

Daily PM10 emissions were calculated using the VMT figures, the winter emission factors for re-entrained road dust, and the tailpipe emission factor. Projected PM10 emissions due to re-entrained road dust represent worst-case scenarios because of the multiplicative effects of summer VMT and winter emission factors, which are both high relative to other seasons. The daily VMT and PM10 emission projections for re-entrained road dust are given in Tables 4-12, 4-13 and 4-14.

Table 4-12
1998 Projected Daily VMT and PM10 Emissions From Re-Entrained Road Dust
Whitefish Nonattainment Area

	Functional Classification	Alternative	
		1993 Existing	1998 No-Build
Summer Daily VMT	Local	10,700	12,300
	Collector	41,400	47,600
	Arterial	86,200	93,600
	Total	138,300	153,500
Winter PM10 Emissions (lbs./day)	Local	3,050	3,510
	Collector	4,260	4,900
	Arterial	8,340	9,060
	Total	15,650	17,470

Table 4-13
2005 Projected Daily VMT and PM10 Emissions From Re-Entrained Road Dust

	Functional Classification	Kalispell Alternative 1993 Existing	2005 No-Build	2005 Alt. A		Functional Classification	Whitefish Alternative 1993 Existing	2005 No-Build	2005 Alt. C (COUPLET-3)
Summer Daily VMT	Local	64,900	82,900	82,800	Summer Daily VMT	Local	10,700	14,000	13,300
	Collector	134,700	185,700	182,500		Collector	41,400	55,200	48,100
	Arterial	284,900	351,600	356,900		Arterial	86,200	100,800	114,400
	Total	484,500	620,200	622,200		Total	138,300	170,000	175,800
Winter PM10 Emissions (lbs./day)	Local	5,990	7,650	7,640	Spring PM10 Emissions (lbs./day)	Local	3,050	4,000	3,800
	Collector	11,770	16,230	15,950		Collector	4,260	5,680	4,950
	Arterial	14,870	18,350	18,630		Arterial	8,340	9,760	11,070
	Total	32,630	42,230	42,220		Total	15,650	19,440	19,820

Table 4-14
2015 Projected Daily VMT and PM10 Emissions From Re-Entrained Road Dust

	Functional Classification	Kalispell Alternative 1993 Existing	2015 No-Build	2015 Alt. A+B		Functional Classification	Whitefish Alternative 1993 Existing	2015 No-Build	2015 Alt. C (COUPLET-3)
Summer Daily VMT	Local	64,900	97,700	83,900	Summer Daily VMT	Local	10,700	16,700	15,800
	Collector	134,700	233,700	197,100		Collector	41,400	67,500	57,300
	Arterial	284,900	390,500	424,600		Arterial	86,200	107,000	128,000
	Total	484,500	721,900	705,600		Total	138,300	191,200	201,100
Winter PM10 Emissions (lbs./day)	Local	5,990	9,020	7,740	Spring PM10 Emissions (lbs./day)	Local	3,050	4,770	4,510
	Collector	11,770	20,430	17,230		Collector	4,260	6,950	5,900
	Arterial	14,870	20,380	22,160		Arterial	8,340	10,360	12,390
	Total	32,630	49,830	47,130		Total	15,650	22,080	22,800

Tables 4-15, 4-16 and 4-17 show projected daily tailpipe PM10 emissions.

Table 4-15
1998 Projected Daily VMT and PM10 Tailpipe Emissions
Whitefish Nonattainment Area

	Alternative 1993 Existing	1998 No-Build
Summer Daily VMT	138,300	153,500
PM10 Emissions (lbs./day)	50	50

Table 4-16
2005 Projected Daily VMT and PM10 Tailpipe Emissions

	Kalispell Alternative				Whitefish Alternative		
	1993 Existing	2005 No-Build	2005 Alt. A		1993 Existing	2005 No-Build	2005 Alt. C (COUPLET-3)
Summer Daily VMT	484,500	620,200	622,200	Summer Daily VMT	138,300	170,000	175,800
PM10 Emissions (lbs./day)	160	210	210	PM10 Emissions (lbs./day)	50	60	60

Table 4-17
2015 Projected Daily VMT and PM10 Tailpipe Emissions

	Kalispell Alternative				Whitefish Alternative		
	1993 Existing	2015 No-Build	2015 Alt. A + B		1993 Existing	2015 No-Build	2015 Alt. C (COUPLET-3)
Summer Daily VMT	484,500	721,900	705,600	Summer Daily VMT	138,300	191,200	201,100
PM10 Emissions (lbs./day)	160	240	240	PM10 Emissions (lbs./day)	50	60	70

Tables 4-18, 4-19 and 4-20 show projected total daily PM10 emissions, including tailpipe as well as emissions from re-entrained dust.

Table 4-18
1998 Projected Total Daily PM10 Emissions
Whitefish Nonattainment Area

	Alternative	
	1993 Existing	1998 No-Build
PM10 Emissions (lbs./day)	15,700	17,520

Table 4-19
2005 Projected Total Daily PM10 Emissions

	Kalispell Alternative					Whitefish Alternative		
	SIP Budget	1993 Existing	2005 No-Build	2005 Alt. A		1993 Existing	2005 No-Build	2005 Alt. C (COUPLET-3)
PM10 Emissions (lbs./day)	53,500	32,790	42,440	42,430	PM10 Emissions (lbs./day)	15,700	19,500	19,880

Table 4-20
2015 Projected Total Daily PM10 Emissions

	Kalispell Alternative					Whitefish Alternative		
	SIP Budget	1993 Existing	2015 No-Build	2015 Alt. A+B		1993 Existing	2015 No-Build	2015 Alt. C (COUPLET-3)
PM10 Emissions (lbs./day)	53,500	32,790	50,070	47,370	PM10 Emissions (lbs./day)	15,700	22,140	22,870

According to 40 CFR Parts 51 and 93, this project must meet two conformity tests:

1. Projected vehicular emissions for the Build scenarios must be lower than those for the No-Build scenario. This applies to both the Whitefish and Kalispell areas.

2. Projected vehicular emissions for all scenarios must be less than or equal to the vehicular emissions budget specified in the applicable State Implementation Plan (SIP). (This test is not applicable to the Whitefish Nonattainment Area because a SIP does not yet exist for this area).

An analysis of Tables 4-19 and 4-20 shows the following for the Kalispell Nonattainment Area:

- Projected PM10 emissions are lower for both Alternative A and Alternative A+B than for the No-Build Alternative. With both Build alternatives, compared to No-Build, a higher proportion of projected VMT is on arterials, for which the emission factor is relatively low.

- Projected PM10 emissions for all alternatives in all analysis years are below the Kalispell PM10 SIP vehicular emissions budget of 53,500 pounds per day (source: MDHES).

An analysis of Tables 4-19 and 4-20 shows the following for the Whitefish Nonattainment Area:

- Projected PM10 emissions for Alternative C COUPLET-3 (the preferred alternative) are higher than that for the No-Build Alternative in 2005 and 2015 by less than one percent.

4.8.3 Hot Spot Analysis

40 CFR Parts 51 and 93 requires a hot spot analysis for FHWA and FTA projects in PM_{10} non-attainment areas. This analysis has not been conducted for this FEIS because EPA has not yet released guidance pertaining to this analysis.

4.8.4 Findings

Analysis of projected PM10 emissions based on VMT shows that emissions from Build alternatives will be lower than under the No-Build Alternative in the Kalispell Nonattainment Area. In addition, emissions from all alternatives will fall within the vehicular emissions budget specified in the Kalispell PM10 SIP. In Kalispell, this project meets the conformity guidelines.

PM10 emissions from the Build Alternative will be higher than under the No-Build Alternative in the Whitefish Nonattainment Area, thus mitigation is needed.

4.8.5 Coordination

Extensive coordination has occurred with the EPA and the MDHES, including several meetings and telephone conference calls. Volume II includes letters from the EPA and MAQD related to air quality. A finding of conformity is in Volume II.

4.8.6 Mitigation

The following design features have been committed to in writing by MDT (see Volume II). These will be implemented together with (and therefore at the same time as) construction of US 93 improvements in Whitefish. These features, which are applicable between MT 40 and Lion Mountain Road, have been shown to reduce PM_{10} levels in Whitefish to below No-Build levels by reducing carry-on dust.

1. Surfacing of gravel and dirt shoulders.
2. Construction of curb and gutter.

The following mitigation will be considered during construction of the US 93 project:

1. Daily street sweeping (when needed and necessary) on both ends of the project during the construction phase. This will reduce the major carry-on of dirt from the project onto the paved streets within the nonattainment boundaries.

2. If any detours are unpaved, they should be watered and/or chemically stabilized so that the emissions are less than 20 percent opacity.

3. Any slash being burned due to right-of-way clearing should be stacked with a brush blade and cured. Open burning restrictions must be followed, and a major open burning permit and fee may be required from the county.

4. Asphalt plants and gravel crushers in the immediate vicinity are also substantial contributors to the PM10 emissions from highway construction. An air quality permit must be obtained from MAQD to operate crushers and asphalt plants in Montana.

4.9 Noise

Existing noise conditions are described in Section 3.8.

4.9.1 Impacts

A noise analysis was performed to compare existing noise conditions to predicted future noise levels associated with proposed road alternatives. The noise study was conducted consistent with procedures of Title 23, Code of Federal Regulations (CFR), Part 772. The design year used is 2015 and all assumptions represent probable

traffic conditions for that year. Receptors were selected based on proximity to proposed road alternatives and types of land use.

4.9.1.1 Future Noise Levels

Existing and future peak-hour traffic volumes, operating speeds, and vehicle mix were derived from a QRS II transportation model developed to produce traffic forecasts. The model was validated to 1993 summer daily traffic volumes and was used to forecast 2015 summer daily traffic volumes for various alternatives. This information was input into the FHWA-accepted STAMINA2.0 noise model to calculate 1993 noise levels and predict 2015 noise levels. The receptors utilized for this analysis are representative of the residences and churches which are closest to each alternative. The calculated noise levels are indicated in Tables 4-21, 4-22 and 4-23 for rural areas, Kalispell, and Whitefish, respectively.

Table 4-21
Predicted Noise Levels - Rural Areas (dBA Leq)

	Location			
Alternative	Somers to Ball's Crossing	Reserve Drive to KM Road	KM Road to MT-40	West of Karrow Avenue
1993 Measured	64	64	NM	70
1993 Calculated	60-76	55-71	59-73	56-74
2015 No-Build	61-78	57-73	61-74	57-72
2015 Alt. A(MEDIAN)	61-74	58-72	61-76	56-74
2015 Alt. A(TURN-LANE)	61-73	58-74	61-75	56-74

NM - Not Measured

Table 4-22
Predicted Noise Levels - Kalispell
(dBA Leq)

	Location			
Alternative	Ball's Crossing to 11th Street	11th Street to Reserve Drive	Stillwater Road/ Reserve Drive	Bypass B Alignment
1993 Measured	NM	67	NM	52
1993 Calculated	56-76	58-70	33-61	NA
2015 No-Build	56-76	60-72	36-65	NA
2015 Kalispell Alt. A	57-78	60-72	38-64	NA
2015 Kalispell Alt. B & A	54-76	61-74	57-72	53-71

NM - Not Measured
NA - Not Applicable

Table 4-23
Predicted Noise Levels - Whitefish

Alternative	Location	
	Spokane Avenue MT 40 to Karrow Ave	Baker Avenue Spokane to 2nd
1993 Measured	68	59
1993 Calculated	56-69	59-65
2015 No-Build	57-69	60-66
2015 A(FOUR-LANE)	58-70	55-60
2015 C(OFFSET)	58-68	62-67
2015 C(COUPLET-1)	58-68	63-69
2015 C(COUPLET-2)	58-68	63-69
2015 C(COUPLET-3)	58-70	51-61
2015 C(COUPLET-4)	58-68	63-68

Significant differences occur between 1993 measured and calculated noise levels because noise measurements include all exterior noise sources, and traffic characteristics on the day of measurements may differ from those of summer afternoon peak-hour traffic. Calculated noise levels represent those generated by summer afternoon peak-hour traffic only.

4.9.1.2 Traffic Noise Impacts

There are criteria for determining noise impacts. These are:

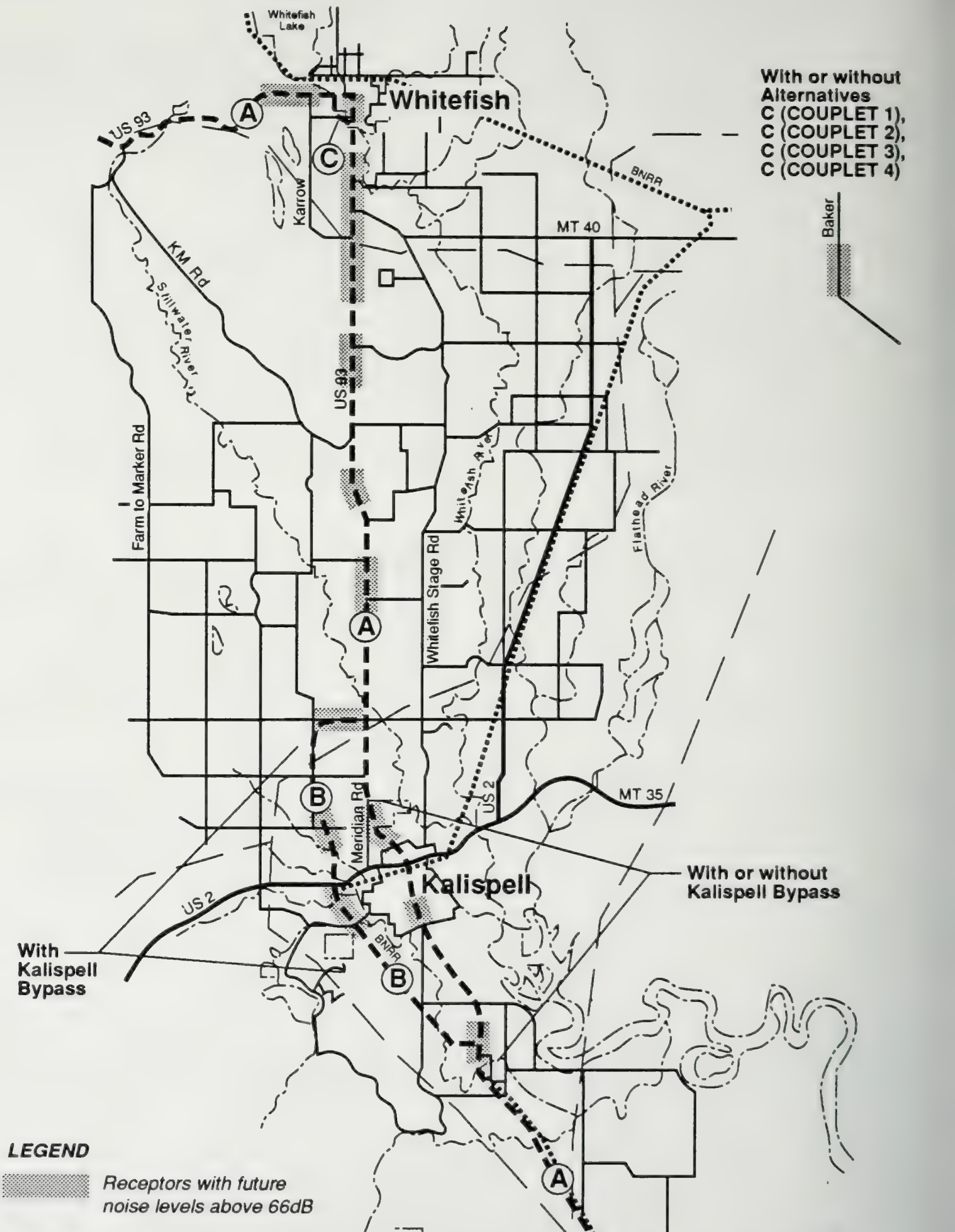
- Comparison of predicted noise levels with FHWA Noise Abatement Criteria (NAC). Any predicted noise level which approaches or exceeds the NAC level is considered an impact requiring consideration for noise abatement. MDT has defined the term "approach" to mean 1 dBA Leq less than FHWA NAC.

- Determination of whether a substantial increase will occur from existing to predicted noise levels. MDT has defined a "substantial increase" as one of 10 dBA Leq or greater.

Receptors along the existing US-93 alignment experience noise levels in 1993 which approach or exceed FHWA NAC. More are also expected to experience noise levels in 2015 under all alternatives which approach or exceed FHWA NAC. No receptors are expected to receive a substantial increase in noise levels from 1993 to 2015 under Alternatives A(MEDIAN), A(TURN-LANE) or A(COMBO).

Receptors along Stillwater Road, Reserve Drive, and the Bypass B alignment in Kalispell do not experience noise levels in 1993 which approach or exceed FHWA NAC. Some are expected to experience noise levels in 2015 under the Kalispell A and B Alternatives which approach or exceed FHWA NAC, and some are expected to experience substantial increases in noise levels from 1993 to 2015 under the Kalispell B & A Alternative. Figure 4-4 shows receptor concentrations which are expected to exceed FHWA NAC.

No receptors along Baker Avenue in Whitefish experience noise levels in 1993 which approach or exceed FHWA NAC. Some are expected to experience noise levels in 2015 under the Whitefish C Alternatives which approach or exceed FHWA NAC. No receptors are expected to receive a substantial increase in noise levels from 1993 to 2015 under any alternative.



Somers to Whitefish
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Figure 4-4

Concentrations of Receptors with Future Noise Levels above 66dB

Tables 4-24, 4-25 and 4-26, show predicted noise impacts to rural areas, Kalispell, and Whitefish, respectively. They show numbers of receptors which approach or exceed FHWA NAC. In addition to the impacts shown in these tables, 10 receptors along Stillwater Road and Reserve Drive, and 13 receptors along the Bypass B alignment in Kalispell are expected to receive substantial increases in noise levels from 1993 to 2015 under the Kalispell B & A Alternatives.

Table 4-24
Predicted Noise Impacts - Rural Areas
Number of Receptors Which Approach or Exceed FHWA NAC

Alternative	Location				Total
	Somers to Ball's Crossing	Reserve Drive to KM Road	KM Road to MT-40	West of Karrow Avenue	
1993 Existing	14	9	33	12	68
2015 No-Build	22	15	39	13	89
2015 A(MEDIAN)	18	17	48	11	94
2015 A(TURN-LANE)	19	18	48	11	96

Table 4-25
Predicted Noise Impacts - Kalispell
Number of Receptors Which Approach or Exceed FHWA NAC

Alternative	Location				Total
	Bell's Crossing to 11th Street	11th Street to Reserve Drive	Stillwater Road/Reserve Drive	Bypass B Alignment	
1993 Existing	11	18	0	0	29
2015 No-Build	11	25	0	0	36
2015 Kalispell Alt. A.	11	29	0	0	40
2015 Kalispell Alt. B + A	9	29	24	4	66

Table 4-26
Predicted Noise Impacts - Whitefish
Number of Receptors Which Approach or Exceed FHWA NAC

Alternative	Location Spokane Avenue MT 40 to Karrow Ave	Baker Avenue Spokane to 2nd
1993 Existing	52	0
2015 No-Build	62	3
2015 A(FOUR-LANE)	62	0
2015 C(OFF-SET)	60	7
2015 C(COUPLET-1)	62	7
2015 C(COUPLET-2)	62	7
2015 C(COUPLET-3)	62	0
2015 C(COUPLET-4)	62	7

4.9.2 Mitigation

Title 23 CFR 772 requires that noise abatement measures be considered if a traffic noise impact is identified. An analysis of reasonableness of providing noise abatement has been prepared for this project.

Noise barriers do not appear to be reasonable for receptors located along the existing US-93 alignment. This is because almost all of these receptors have direct access to and from the highway and the constant breaks that will be required in order to accommodate this access will severely compromise the effectiveness of a noise barrier. In addition, noise barriers in these locations will block views from residential areas.

Changes in the horizontal and/or vertical alignment of the road can be effective in reducing noise. In particular, lowering the profile of the road in residential areas can effectively reduce noise by taking advantage of natural topography to screen noise. This mitigation measure can be considered in more detail after a preferred alternative has been selected and during final design of the project.

The provision of interior noise insulation is an acceptable noise abatement measure to reduce interior noise levels in public buildings only. Since none of the sensitive receptors of concern is a public building, this will not be an appropriate mitigation measure.

No abnormal construction noise impacts are anticipated with this project. The major construction tasks are expected to be earth moving and removal, hauling, grading, and paving. If noise problems due to construction activities are identified, the most effective means to control the noise is by limiting the hours of construction activities to daytime hours (7:00 AM to 5:00 PM). Other measures to be considered are noise shields (temporary barriers) and to plan detours which do not create additional noise impacts for sensitive receptors.

4.10 Water Resources and Quality

Existing water resource conditions are described in Section 3.9.

4.10.1 Impacts

Two major issues related to water resources or water quality are:

- Increased impurities in stormwater runoff water from increased traffic flow, increased impervious surface and/or increased maintenance activities.
- Sediment loading during and after construction activities due to the exposure of bare substrate.

Surface water quality can be affected and degraded by contaminated highway stormwater runoff. Highway surface runoff contains organic and inorganic chemicals and compounds as well as significant quantities of suspended solids. These components are usually a product of petroleum/combustion products, vehicle and pavement wear and highway maintenance procedures (Rexnord 1985).

In typical rural sections of highway storm water runoff is usually collected in roadside ditches and channeled away to the receiving water feature, by way of natural open drainage flows. In such sections water quality impacts on the receiving water feature are usually diminished or completely removed by filtration and dilution

of pollutants with vegetation and soils. The threshold of traffic volume for which this natural filtration is adequate protection against water quality degradation is approximately 30,000 ADT (Rexnord 1985).

4.10.1.1 No-Build Alternative

The No-Build Alternative will result in less surface runoff than the build alternatives since the total amount of impervious surface will be less. However there will be more opportunity over time for chemical or hazardous material spills as the accident potential increases. Both Flathead Lake and Whitefish Lake are far removed from any of the proposed alternatives and bypasses. Although their proximity precludes a direct spill, it is possible that direct spills in any of the upstream features will have a serious impact on lake water quality. The No-Build alternative, under such terms, is the only alternative that has a future negative impact by not lowering the accident / spill potential of the corridor.

4.10.1.2 Impacts Common to All Build Alternatives

Water resource impacts associated with the build alternatives are expected to be minor for two reasons. First, the project overlays and existing transportation corridor with its specific profile and grading that has been used consistently for a number of years without excessive water or stream degradation. Second, because the corridor passes over the water features in an approximately perpendicular manner, as opposed to running longitudinally adjacent to them, there are fewer opportunities for impacts.

Alternative B will result in more stream crossings, with resulting increases in exposure to more surface water impacts.

None of the build alternatives are projected to have traffic volumes exceeding this 30,000 ADT in rural areas. However, in urbanized locations there are a few instances where this threshold will be reached. In these cases, for all of the build alternatives, the stormwater runoff is channeled by curb and gutter to the existing and appropriate municipal stormwater delivery systems, where it will be diluted to necessary levels before being discharged into a water feature. **Stormwater delivery systems will be designed in accordance with current MDT and local jurisdictional practice.**

During construction for any of the build alternatives, there will likely be temporary fluctuations in sediment and suspended material loads due to excavation and denudation of surrounding surfaces. There may also be a need for dewatering procedures in locations of bridge pier construction. In most instances these temporary situations if contained and mitigated appropriately, will not create any long term impacts.

Although there will not be significant differences in contamination of stormwater runoff, there will be **increases in** based on the difference in area of required pavement. **Stormwater detention areas constructed for this project will also be available to detain hazardous or toxic materials spills, as well as other chemicals and sediments. Spill materials, chemicals and sediment which are detained will not directly enter the aquatic environment.**

4.10.1.3 Area of Impervious Surface

Table 4-27 summarizes the new impervious surface that will be created as a result of each alternative:

Table 4-27
Impervious Surface
Hectares (Acres)

Segment	Alternative						
Somers to Kalispell	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO)			
	0(0)	7.7 (19.0)	9.0 (22.2)	7.7 (19.0)			
Kalispell Area	No-Build	A	A + B(MEDIAN)	A + B(TURN-LANE)			
	0(0)	0.00 (0)	47.34 (117)	47.34 (117)			
Kalispell to Whitefish	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO)			
	0(0)	19.28 (47.63)	22.15 (54.74)	20.29 (50.14)			
Whitefish Area	No-Build	A(FOUR-LANE)	C(OFF-SET)	C(COUPLET-2)	C(COUPLET-2)	C(COUPLET-3)	C(COUPLET-4)
	0(0)	0.97 (2.4)	2.65 (6.55)	0.68 (1.68)	0.98 (2.43)	0.62 (1.52)	1.12 (2.76)
West of Whitefish	No-Build	A(MEDIAN)	A(TURN-LANE)				
	0(0)	3 (7.9)	3 (7.9)				

Alternatives C(COUPLET-2) and C(COUPLET-3) will have potentially greater effects due to the new bridge over the Whitefish River. Alternative C(COUPLET-4) will have greater effects due to the widening of the Baker Street bridge.

4.10.1.4 River Encroachment

The design intention for all of the proposed build alternatives is to limit encroachment below the mean high water mark as much as is feasible at each crossing. The major water crossings such as the Stillwater and Ashley Creek at US 93, have been bridged. There are no plans to place any abutment materials below the mean high water mark. Only the pier substructure necessary for support will be placed directly in the flow of the rivers.

Table 4-28 describes all of the river crossings and their associated alternatives. These descriptions of sites along the alternative corridors include the type of site, type of involvement and approximate quantity of fill materials necessary at that site.

Where a bridge structure is not practical or economically feasible on the smaller streams and creeks, culverts will be specified and sized to meet FHWA and MDT hydraulic design standards **and if needed, fish passage requirements.** The fill figures associated with these culvert areas are estimates based on these criteria.

Volume calculations are in cubic meters for riparian encroachment areas. These volumes represent quantities that would be below the **ordinary** high water mark. Site numbers refer to the wetland locations discussed in Section 3.10, Table 3-20.

Table 4-28
Section 404 Riparian Sites and Approximate Fill Quantities in Cubic Meters (cu. yds.)

Site No.	Site Location	Site Type	Type of Involvement	No-Build	A (MEDIAN)	A (TURN-LANE)	A (COMBO)	A (FOUR-LANE)	C (OFF-SET)	B (MEDIAN)	B (TURN-LANE)
5	Patrick Creek	Riparian	Culvert	0.0							
6	Patrick Creek	Riparian	Culvert	0.0	57 (74)	11 (15)	57 (74)				
7	Patrick Creek	Riparian	Culvert	0.0							
8	Ashley Creek	Riparian	Bridge	0.0	28 (37)	28 (37)	28 (37)				
9	Ashley Creek	Riparian	No Involvement	0.0						0.0	0.0
10	Ashley Creek	Riparian	Culvert	0.0						7300 (9600)	7300 (9600)
15	Ashley Creek	Riparian	Culvert	0.0						20000 (26200)	20000 (26200)
16	Ashley Ck. Trib.	Riparian	Culvert	0.0						2600 (3400)	2600 (3400)
17	West Spring Creek	Riparian	Culvert	0.0						8600 (11200)	8600 (11200)
18	Stillwater River	Riparian	Bridge	0.0	42 (56)	42 (56)	42 (56)				
21	Whitefish South	Riparian	Bridge	0.0				42 (56)	42 (56)		
24	Whitefish North	Riparian	Bridge	0.0	14 (18)	14 (18)	14 (18)				

Site No.	Site Location	Site Type	Type of Involvement	No-Build	C(COUPLET-1)	C(COUPLET-2)	C(COUPLET-3)	C(COUPLET-4)
22	White-fish 7th St.	Riparian	Bridge	0.0	0.0	18 (23)	18 (23)	0.0
23	White-fish Baker St.	Riparian	Bridge	0.0	14 (18)	14 (18)	14 (18)	14 (18)

4.10.2 Mitigation

Although there are no significant impacts associated or predicted for this project, conformance to MDHES stormwater management guidelines is recommended for the implementation of any of the alternatives. Throughout the construction phase of any alternative, the use of procedures described in the MDT Highway Construction Standard Erosion Control Work Plan will be considered. Some of these acceptable mitigation measures include:

1. The use of vegetative cover and long flow distances in all waterways conveying stormwater away from roadways and into water features to optimize percolation and provide additional water quality protection.

2. Use of a design that conveys stormwater into appropriate stormwater facilities where possible in urban areas.

3. The use of appropriately designed and located silt fences (during construction) to strain excessive sediment from runoff before entering a water features.

4. The use of temporary and permanent retention ponds (during construction) to optimize settling time for sediment laden runoff before entering a water features.

5. The express use of settling ponds for the effluent of dewatering operations, if needed.

6. Minimization of vegetation disturbance and rapid revegetation of areas of disturbance.

7. Restriction of movements of construction vehicles on unpaved areas where possible.

8. **Preparation of a stormwater pollution prevention plan in the construction specifications which will be implemented by the contractor.**

4.11 Wetlands

Existing wetland conditions are described in Section 3.10.

4.11.1 Impacts

Impacts that will occur to wetlands include short-term impacts during construction, long-term impacts due to the placement of dredged or fill material in wetland and long-term indirect effects due to receipt of runoff from the highway. More detailed information about wetlands is contained in a separate report: *Wetlands Inventory and Assessment*, Carter & Burgess, February 1994.

4.11.1.1 No-Build Alternative

Wetlands along the existing roads are currently receiving impacts due to activities on adjacent agricultural lands, maintenance mowing along existing roads, herbicide application, and sedimentation and pollutants (e.g. road salt) released during wind and runoff events.

4.11.1.2 Impacts for the Build Alternatives

Somers to Kalispell

In the segment between Somers to Kalispell along US 93, effects on the eight wetlands vary with location of the wetland and the design concept implemented. Because improvements to this segment of road will involve constructing east from the existing road, **most** of the wetlands on the west side of the existing road will not be affected. Thus wetlands 3 or 5 will not be adversely affected by implementation of **any of the build alternatives, including A(COMBO), the preferred alternative**.

Wetland 1 is affected minimally, 0.01 hectares (0.03 acres), by A(MEDIAN) and A(COMBO). This wetland is located at the southern project terminus where the alternatives taper to meet the existing sections of US 93. It may be possible with further taper design considerations to avoid this wetland altogether. **This will be incorporated into the design if at all possible.**

Wetlands 2 and 3 are mostly to the west side of the road and **impacts are thus minimized** by the shift of the alignment to the east. There is one small portion of wetland 2, east of the existing highway, that will be impacted 0.04 hectares (.09 acres) for A(MEDIAN) **and A(COMBO)** and 0.02 hectares (.06 acres) for A(TURN-LANE).

Wetlands 6, 7 and 8 are the wetlands that will have some impact. Due to the use of existing vehicle and railroad grades, wetland 7 will most likely suffer **0.12 hectare (0.3 acre) direct** impacts from fill as a result of regrading related to A(MEDIAN) and A(COMBO). Wetland 6 will **receive** 0.2 hectare (0.5 acre) **of impact**.

Wetland 8 is a riparian wetland associated with Ashley Creek. All of the alternatives are centered over the existing alignment and therefore the difference in impact is related to the cross-sectional width of the roadway. **Any impact in this location will be at least partially mitigated by the project underway by MWQB and MDT to construct wetlands at the stormwater outfall adjacent to Ashley Creek.**

Kalispell Area Including Bypass B

There are nine wetlands within this segment. All are related to the B(MEDIAN) and B(TURN-LANE) alternatives. These alternatives both have the same right of way configuration and thus have the same impacts to all affected wetlands.

Wetland 9 **will incur impact of 0.11 hectare (0.27 acre)**. Wetland 10 has a direct impact of 0.3 hectares (.75 acres) from regrading and fill slopes.

Wetlands 11, 12 and 13 are located near Airport Road across from Wisher's Salvage. Wetlands 11 and 12 will receive 0.05 hectare (0.13 acre) and 0.53 hectare (1.32 acre) impacts, respectively, from regrading and fill slopes. Wetland 13 will **receive 0.37 hectare (0.92 acre) of impact**.

Wetlands 14 through 17 are all riparian except for 14. There are no differences in impacts between the build alternatives for any of these areas.

The Kalispell bypass results in more direct wetland impacts than completion of Alternative A only through Kalispell. The bypass may also accelerate impacts to wetlands as a result of conversion of land use.

Kalispell to Whitefish

Wetland 18 is a riparian wetland associated with the Stillwater River. **The estimated impact for a five-lane bridge alternative is 0.17 hectare (0.43 acre).**

Wetland 19 is adjacent west of the existing roadway. A(TURN-LANE) is centered over the existing roadway centerline at this location and A(MEDIAN) is shifted slightly east to accommodate the split alignment to the south. The result is that there will be some, 0.01 hectare (0.03 acres) of impact with A(TURN-LANE) and no impact with A(MEDIAN) or A(COMBO)**, which is the preferred alternative.**

Wetland 20 also lies west of the existing highway. A(MEDIAN) and A(COMBO) are shifted to the east and thus have less impact to the wetland than A(TURN-LANE) which is centered over the existing roadway.

Whitefish Area

Wetlands 21, 22, 23, and 24 are within this segment. They relate to the south entrance over the Whitefish River, the potential Seventh Street bridge, Baker Avenue bridge and the north crossing of the Whitefish River respectively.

At wetland 21, **a minimal amount of wetland impact will occur.**

Wetland 22 will be undisturbed under alternative C(COUPLET-1) and C(COUPLET-4). Under C(COUPLET-2 and 3) the area removed will be equal to the total pier substructure cross section, 0.001 hectare (.003 acre). Wetland 22 is the wetland that would be under the new Seventh Street bridge.

The Baker Avenue bridge will have the same wetland impact 0.0004 hectares (0.001 acres) under all of the build alternatives. Pier cross section is the only wetland involvement.

West of Whitefish

Wetlands 25, 26, 27, and 28 are all located west of Whitefish along the existing US 93 corridor. None of the proposed alternatives are expected to have direct wetland impacts in this segment. None of the minor improvements to this area (turning and climbing lanes) will adversely affect any wetlands.

Table 4-29
Total Wetland Loss by Wetland
Hectares (Acres)

Wetland Impacted	Impact Hectares (Acres)	Functions, Overall Ranking	
1	0.012 (0.03)	Major functions: flood storage, nutrient retention.	9.5
2	0.036 (0.09)	Major functions: flood storage, nutrient retention, food chain.	12
6	0.20 (0.5)	Major functions: nutrient retention.	9.5
7	0.12 (0.3)	Major functions: nutrient retention, food chain, wildlife habitat.	13
8	0.09 (0.22)	Major functions: flood storage.	12
9	0.11 (0.27)	Major functions: flood storage, nutrient retention, food chain.	14.5
10	0.3 (0.75)	Major functions: flood storage, food chain.	11.5
11	0.05 (0.13)	Major functions: flood storage, nutrient retention, food chain.	12.5
12	0.53 (1.32)	Major functions: flood storage, nutrient retention, food chain.	12.5
13	0.37 (0.92)	Major functions: flood storage, food chain.	10
14	0.04 (0.11)	Major functions: flood storage, food chain.	11.5
15	0.06 (0.14)	Major functions: flood storage.	12
16	0.17 (0.41)	Major functions: flood storage, nutrient retention, food chain.	12.5
17	0.08 (0.20)	Major functions: flood storage, nutrient retention, food chain.	12.5
18	0.17 (0.43)	Major functions: flood storage, nutrient retention, food chain.	14.5
19	0(0)	Major functions: flood storage, nutrient retention, food chain.	10.5
20	0.012 (0.03)	Major functions: flood storage, food chain	12
21-24	0.04 (0.10)	Major functions: flood storage, nutrient retention, food chain.	14-17
25-28	0(0)	Major functions: flood storage, wildlife habitat	
Total	2.4 (5.95)		

In regard to indirect and cumulative impacts of the project as it relates to the growth in the project area, local governments have existing plans and are updating plans to include protection of wetlands and water quality. As discussed in detail in the Land Use Planning Section 3.1.4, local governments have adopted plans which incorporate the goal of preserving environmental resources including water quality. Early drafts of the Flathead County Master Plan Update also include preservation of wetlands and water quality as goals.

In addition to the permanent impact identified for each wetland, temporary wetland impact will occur during construction.

4.11.2 Coordination

Coordination which has occurred related to wetland impacts is with the USCOE, USEPA, USFWS and MDFWP. Appendix B has been provided to these agencies and their coordination letters are in Volume II.

Appendix B includes the 404(b)(1) evaluation. The 404(b)(1) guidelines are the substantive criteria used in evaluating discharges of dredged or fill materials in Waters of the United States under Section 404 of the Clean Water Act and are applicable to all 404 permit decisions. Approval by the USCOE of the 404(b)(1) document is required.

4.11.3 Mitigation

The US 93 roadway has been designed to avoid if possible, then to minimize disturbance and impacts to identified wetlands. However, since some wetlands are immediately adjacent to the existing roadway or the Kalispell railroad right-of-way, complete avoidance of wetlands is not possible. MDT policy states that when avoidance is not possible, on-site mitigation will be given priority. In the event that replacement or enhancement is not possible due to construction, maintenance, safety, or other constraints, off-site mitigation will be considered.

Permits for placing fill in wetlands must be obtained from the US Army Corps of Engineers under Section 404 of the Federal Clean Water Act, amended.

The overall mitigation goal must be no net loss in wetland area or quality. The Council on Environmental Quality (CEQ) (40 CFR 1508.20) provides regulations for sequencing of mitigation, in the following order of priority:

- Avoidance of Wetlands. Avoiding the impacts altogether by not taking a certain action or parts of an action.
- Minimization of Impacts. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Repair, Rehabilitation, Restoration. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Preservation and Maintenance. Reducing or elimination the impact over time by preservation and maintenance operations during the life of the action.

- Replacement. Compensating for the impact by replacing or providing substitute resource or environments.

Additional minimization of wetland impacts as a result of implementation of one of the Build alternatives can occur through use of retaining wall or slope steeping adjacent to wetlands. This effort to minimize wetland impacts will be conducted during the final design process for this project.

Replacement wetlands (either created or restored) can only be used if there is no practical alternative to the discharge of dredged or fill material in a wetland which will have less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into Waters of the United States.

The goal of mitigation is to replace the functions and values of the unavoidably lost wetlands, in areas adjacent to or as close as possible to the area of wetland loss.

A wetland mitigation plan has been discussed and agreed to with the resource agencies. It consists of the following three elements:

A. Replacement or enhancement of wetlands at two or three "on-site locations," adjacent to the area of impact. These will likely be on parcels acquired by MDT. Locations for these will be determined during the final design process.

B. Enhancement of 3.3 hectares (8.2 acres) of wetlands in the Waterfowl Production Area on the north end of Flathead Lake. As shown on Figure 4-5, activities to take place in this location include removal of logs and debris and construction of a berm with a headgate to control water flow.

C. Replacement at Lawrence Park (see Figure 4-6).

4.11.3.1 Description of Waterfowl Production Area Enhancement

The proposed wetland enhancement project would included three basic activities:

a. Remove the woody debris in the existing wetland.

b. Prevent the woody debris from being redistributed into the wetland by construction of a short earthen berm.

c. Achieve water control capability on the wetland to prevent its annual dewatering by construction of a water control structure at the wetland opening to the lake.

The berm with the water control structure would allow manipulation of water levels in the wetland while simultaneously preventing additional woody debris from being redistributed into the wetland from the lake.

Ongoing management of this wetland enhancement project will be undertaken by the Refuges And Wildlife Division of the US Fish and Wildlife Service.

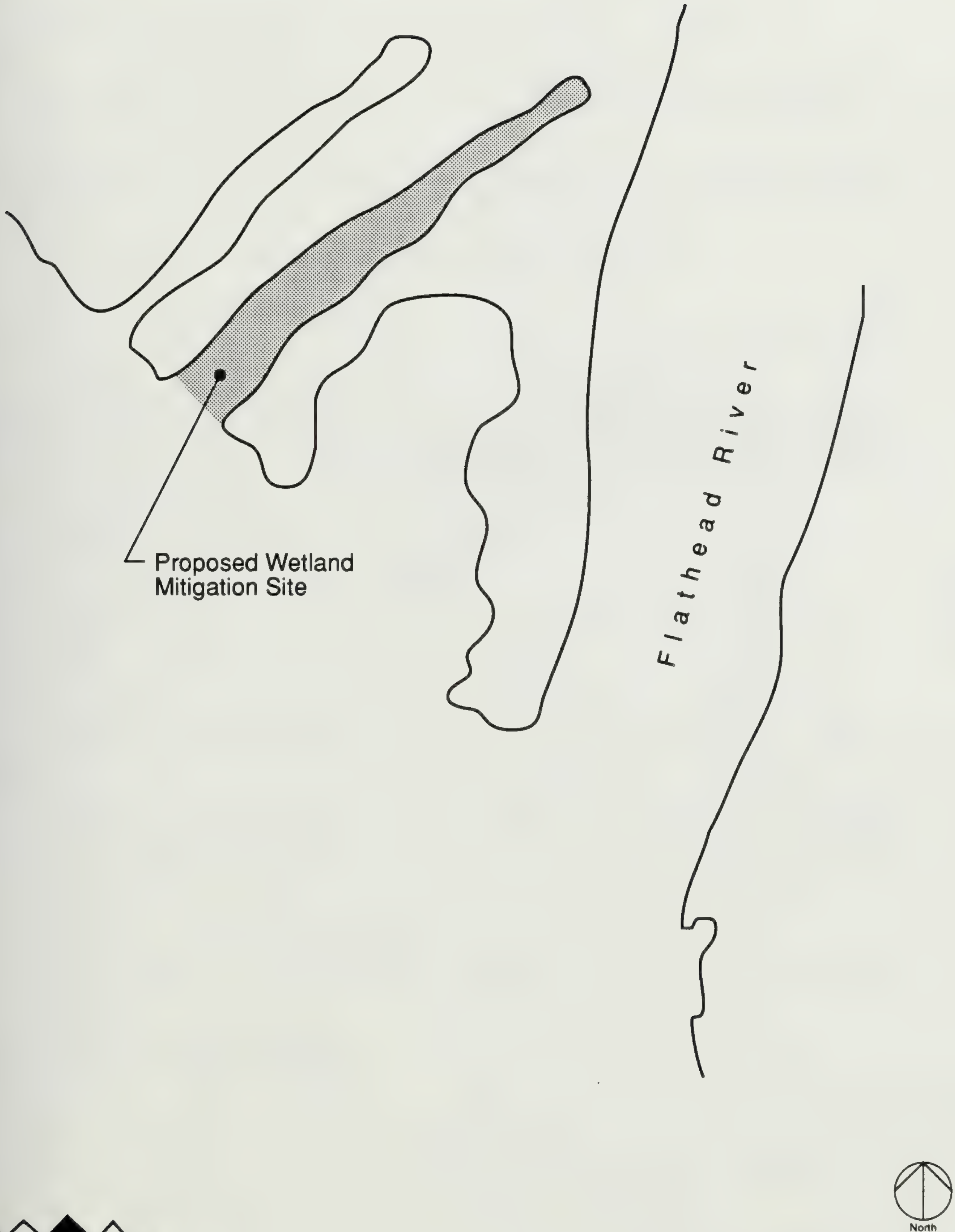

Figure 4-5
Waterfowl Production Area Wetland Enhancement Plan

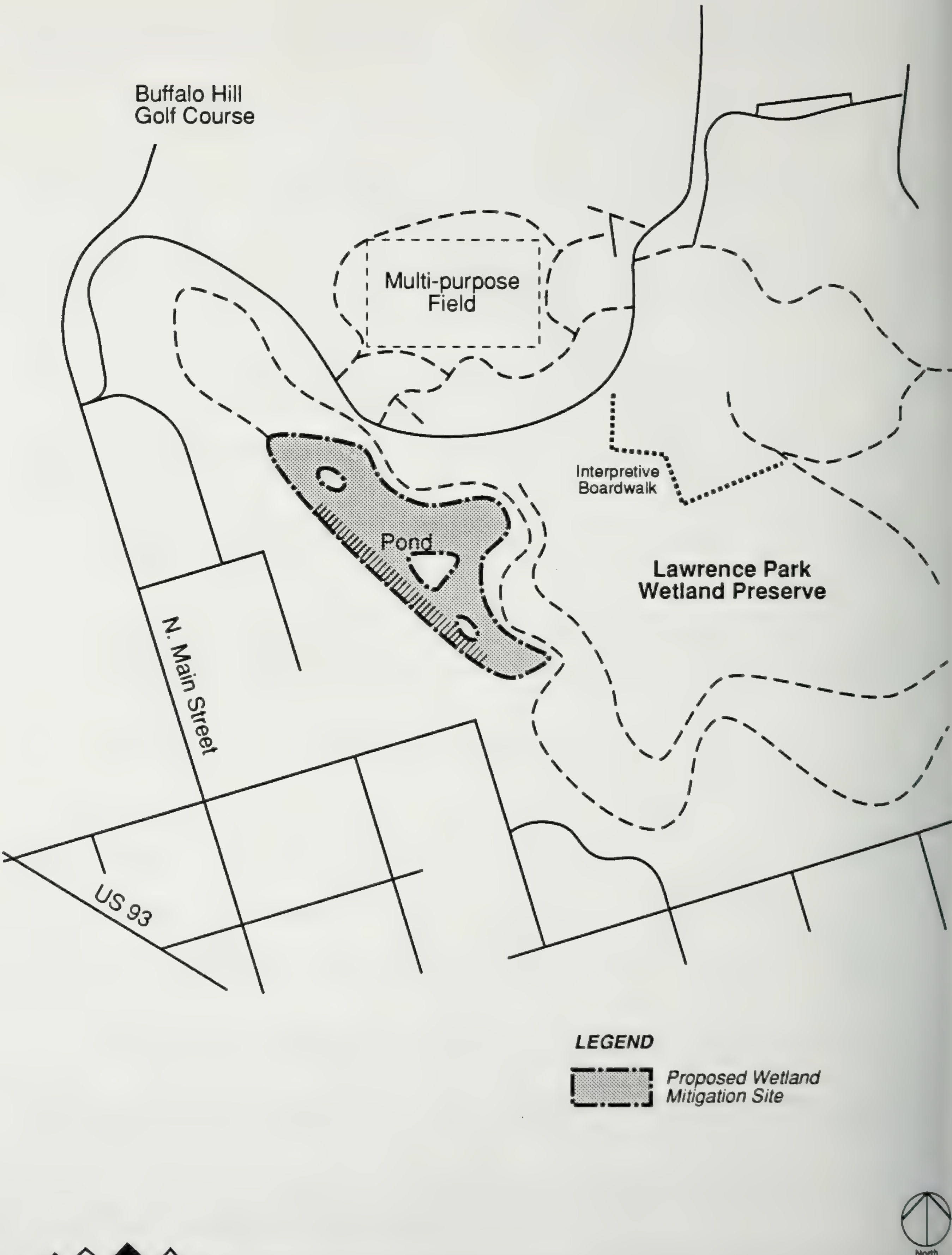

Figure 4-6
Lawrence Park Wetland Mitigation Site

4.11.3.2 Description of Lawrence Park Wetland Mitigation

The proposed wetland mitigation area is currently vacant, with fill dirt in areas. It is an old oxbow area. It is adjacent to and within the floodplain for the Flathead River, with riparian vegetation in the vicinity.

Approximately 2.43 hectares (six acres) could be made available for wetland mitigation. The general plan calls for:

- **Creation of a deep water pond with shallow, vegetated edges.**
- **Islands to serve as wildlife habitat.**
- **Interpretive signage and a boardwalk.**

Due to the presence of visible surface water in the general area, there appears to be sufficient water available to support a new wetland; however, data from groundwater monitoring is not yet available to support this premise. The site is located adjacent to a vegetated ditch to the west, high quality wetlands to the south and the Stillwater River floodplain to the east.

Functions planned at this wetland are:

- **Flood storage**
- **Wildlife habitat**
- **Food chain**

In order to protect the value of this new wetland as wildlife habitat, the following control could be implemented:

- **Control of human access. The planned boardwalk is well away from the eastern edge of the new wetland. Signage and enforcement will be used to prevent human access into the wetland itself.**
- **Implementation and enforcement of the city's pet control ordinance.**
- **Implementation of a buffer area to further protect the wetland area from access by humans or pets.**

4.11.3.3 General Mitigation Guidelines

This detailed mitigation plan will be developed in close coordination with the USCOE, EPA and USFWS. The mitigation plan will follow the USCOE *Habitat Mitigation and Monitoring Proposal Guidelines* and will be finalized prior to the issuance of the 404 permit. **MDT is the responsible entity for funding and implementing the mitigation plan. Wetland mitigation is part of the project cost.**

Success criteria for wetlands mitigation will consider the following:

a. **Percent vegetative cover within the mitigation wetlands should be equal to or greater than the percent vegetative cover of the lost wetlands within a five-year period.**

b. **Vegetative species composition and diversity should closely approximate the composition and diversity of lost wetlands. One method for doing this could be by comparison of plant numbers and vegetative species lists at the lost wetlands and the mitigated wetlands.**

Corrective action will be taken if criteria established for wetland mitigation success at the time of Section 404 permit application are not being met.

4.11.3.4 Minimization During Design and Construction

Where wetland losses are unavoidable, wetland losses will be minimized by implementing conservation measures in highway design and construction.

These conservation measures will include:

- removal of vegetation will be kept to the minimum necessary for completion of the project;
- all exposed areas will be revegetated according to MDT standards and specifications to reduce potential erosion and sedimentation, provide desirable ground cover, to inhibit the invasion of noxious weeds, and for aesthetic purposes;
- perennial stream crossing mitigation measures will be addressed in the Montana Stream Protection Act permit;
- mulching, reseeding, netting, plantings, and other bank stabilization and erosion-control measures will be considered;
- placement of siltation fences along the Flathead River crossing may be used to minimize sedimentation;
- noxious weed control, revegetation seeding, and fertilizing will be coordinated with the county weed district in accordance with MDT standard procedures; and
- flagging or fencing of wetland areas during construction to avoid unnecessary disturbance due to construction activities.

4.11.3.5 Wetland Finding

Based upon the above considerations, it is determined there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

4.12 Fisheries and Wildlife

Existing fisheries and wildlife conditions are described in Section 3.11.

4.12.1 Impacts

More detailed information about impacts to wildlife is contained in the *General Wildlife Technical Report*, Carter & Burgess, February 1994.

4.12.1.1 No-Build Alternative

Under the No-Build Alternative no improvements to the existing corridor will be made. Impacts to wildlife will **generally** remain the same as they are currently, **although as accident potential increases, the likelihood of a spill of hazardous materials increases, which could impact fishery resources at stream crossings (Table 4-30).**

4.12.1.2 Impacts Common to All Build Alternatives

All the build alternatives will physically remove habitat available to wildlife. The amount of habitat lost will vary with each alternative. These losses will be due to increasing the road width and constructing new bridges. The majority of losses will occur in agricultural areas. However, none of the areas to be impacted are critical or limiting for wildlife species.

All the build alternatives will result in additional wildlife/vehicle collisions. However, the potential for these collisions is not expected to increase substantially because the road is already there. Wildlife species in the area are already accustomed to the highway's presence. **Widening traffic lanes and removal of vegetation from the right-of-way would likely inhibit movement of some big game across the highway. Increased traffic volumes and vehicle speed, resulting from highway improvements, would increase the risk of mortality due to vehicle-animal collisions; however, highway improvements would also increase motorists' visibility of animals on or near the highway and allow for some avoidance of collisions. Widening the highway would also provide a greater opportunity for drivers to change lanes and avoid animals.**

Displacement of some species of wildlife will occur with implementation of the build alternatives. This displacement will be a result of disturbances related to the highway including noise, and increasing human activities. However, this displacement is not expected to substantially impact wildlife because all the action alternatives involve improvements to an existing roadway.

Temporary and localized effects to wildlife and fishery resources will be expected during construction. Surface disturbances will result in some increased erosion and turbidity and sedimentation in adjacent bodies of water. Some additional wildlife habitat will be temporarily displaced during construction activity. Revegetation of disturbed surfaces will allow this to be re-used. In addition, noise and disruption associated with construction activities may result in temporary displacement of some wildlife species from the general area and temporary disruption of normal wildlife reproductive cycles.

Impacts associated with the build alternatives will result in wildlife displacement and habitat fragmentation. Displacement will result from wildlife being unable to utilize habitats adjacent to the highway due to increased human activity. However, as wildlife become accustomed to these disturbances they may potentially utilize these areas.

Additional impacts will result from an expected increase in development along the highway. This increase in development may occur as businesses and residents move into previously unpopulated areas along the highway. This development will result in habitat fragmentation. Fragmentation will result from wildlife being unable to access habitats due to increased human activity. This increase will restrict wildlife from utilizing all available habitats.

However, these impacts are not expected to adversely impact wildlife because the habitats to be impacted are common within the general project area **and additional carrying capacity remains. Significant displacement will not occur.**

4.12.1.3 Impacts for the Build Alternatives

4.12.1.3.1 Somers to Kalispell

Impacts to wildlife are expected to be low along this section of the corridor. The majority of habitats within this area are agricultural. However, small amounts of wetland and riparian habitat may be affected at the stream crossing. For Alternative A(MEDIAN) and A(COMBO), approximately 30.78 hectares (76 acres) of habitat will be converted to highway. Alternative A(TURN-LANE) will convert approximately 17.01 hectares (42 acres) of habitat to highway (Table 4-30).

Table 4-30
Potential Impacts to Wildlife by Road Section

Road Sections	Big Game Habitat	General Wildlife	Raptors	Habitat Types Converted	Threatened or Endangered Species	Alternatives A(MEDIAN) & A(COMBO) Hectares (Acres)	Alternative A(TURN-LANE) Hectares (Acres)	Stream Crossings
Somers to Kalispell	White-tail Winter Range	Low	Low	Agricultural; Riparian	None	30.78 (76) (preferred)	17.01 (42)	Ashley Creek; Patrick Creek
Kalispell Bypass B	None	Low	Low	Agricultural; Riparian	None	35.64 (88)*	32.81 (81)* (preferred)	Spring Creek and Ashley Creek
Kalispell	None	Low	Low	Agricultural; Urban	None	9.72 (24)	9.72 (24) (preferred)	None
Kalispell to Whitefish	White-tail Winter Range	Low	Low	Agricultural; Coniferous Forest; Riparian	None	49.41 (122)	34.83 (86) (preferred)	Stillwater River
Whitefish A(FOUR-LANE)	None	Low	Low	Urban; Riparian	None	6.48 (16)	--	Whitefish River
Whitefish C(COUPLET-1)	None	Low	Low	Urban; Riparian	None	6.48 (16)	--	Whitefish River
Alt. C(COUPLET-2)	None	Low	Low	Urban; Riparian	None	11.75 (29)	--	Whitefish River
Whitefish C(COUPLET-3)	None	Low	Low	Urban; Riparian	None	6.48 (16) (preferred)	--	Whitefish River
Whitefish C(COUPLET-4)	None	Low	Low	Urban; Riparian	None	6.48 (16)	--	Whitefish River
Whitefish to West Terminus	White-tail Winter Range	Low	Low	Coniferous Forest	Low	10.5(26)	10.5(26)	None
No-Build	None	None	None	None	None	None	None	None

Low: Impacts will be minor and will not require specific mitigation measures.
None: Will have no perceptible impact on the resource.
**These quantities include the impacts of Alternative A in Kalispell.*

Within this section of the corridor, a limited amount of winter/spring big game habitat occurs. However, the proposed expansion is expected to have a low impact on this habitat. This is based on the following consideration. Wildlife species in the area are already accustomed to highway related disturbances. Therefore, an increase in road width will not change the type of disturbance already occurring in the area.

Although the type of disturbance will remain the same, increasing the width of the highway may increase the number of deer/vehicle collisions due to the greater travel distance needed for deer to cross the highway. Within this area a higher number of collisions already occurs as compared to other areas along the corridor (Cross 1993). However, over time the deer will become accustomed to the increase in road width and therefore, the impacts are expected to be low.

Impacts to raptors are expected to be low primarily because no raptor nests have been identified near the corridor. Although raptors are known to occur in the area, they are already accustomed to highway-related disturbances. Thus, the additional width probably will not substantially affect them.

One stream crossing occurs within this section of the corridor. The Ashley creek crossing is not expected to adversely impact aquatic species, since it does not contain a significant fishery (Hanzel 1993). Also, it does not provide habitat for any threatened, endangered, or sensitive fish species, including bull and westslope cutthroat trout (Craig 1993).

4.12.1.3.2 Kalispell Bypass B

Impacts to wildlife species within this area are expected to be low. Approximately 25.92 hectares (64 acres) of habitat will be converted under this alternative with Alternative B(MEDIAN). With Alternative B(TURN-LANE), approximately 23.08 hectares (57 acres) of habitat will be converted. Like in the Somers to Kalispell segment, the majority of habitat impacted will be agricultural. **The bypass may also accelerate impact to wildlife habitat associated with conversions of land from open or agricultural to higher intensity uses.**

Impacts under this section are expected to be the same as those for the Somers to Kalispell section. However, no big game winter range has been identified within this section of the right-of-way. Therefore, mitigation measures described to limit deer/vehicle collisions will not be necessary within this section of highway.

Two streams are crossed by this alternative. They are Spring Creek and Ashley Creek. As described previously Ashley Creek does not support a significant fishery. Spring Creek also does not support a fishery or habitat for sensitive fish, including bull and westslope cutthroat trout. Therefore, impacts to these two areas will be minimal. However, proper construction practices will be implemented to minimize impacts to the waterways.

This section also passes adjacent to the Lone Pine State Preserve west of Kalispell. Although designated as a preserve the area is not managed for any wildlife species (Cross 1993). Currently the area contains residential property, and experiences a high degree of human disturbance. Therefore, the highway is not expected to greatly impact this area.

Potential impacts to raptors will be the same as for the Somers to Kalispell section.

4.12.1.3.3 Kalispell Through Town

This section will convert approximately 9.72 hectares (24 acres) of habitat. However, the majority of these habitats occur within either urban or agricultural type habitats.

Impacts along this section will be the same as those described for Alternative B(MEDIAN) and B(TURN-LANE). However, within this section no streams will be crossed. Also, no designated preserves are crossed by this section of highway.

4.12.1.3.4 Kalispell to Whitefish

Within this section of highway, approximately 49.41 hectares (122 acres) of habitat will be converted under Alternatives A(MEDIAN) and A(COMBO), while under Alternative A(TURN-LANE) approximately 34.83 hectares (88 acres) of habitat will be converted. The majority of habitats impacted are agricultural, however, small amounts coniferous forest and riparian type habitats may be impacted.

Impacts to wildlife for this section will be the same as those described for the Somers-to-Kalispell section. South of Whitefish, approximately four miles of big game winter range is bisected by the corridor. During the winter this area accounts for a high rate of vehicle-killed deer as they move throughout the area.

Within this section one major stream is crossed, the Stillwater River. The Stillwater River, like previously described streams, does not support a significant fishery (Hanzel 1993). The majority of fish species in the river are migratory and therefore, resident fish population is not of concern to resource management agencies. However, proper construction practices will be utilized to minimize impacts to the waterway, including maintaining flow around the construction area to facilitate migrating fish, such as bull and westslope cutthroat trout.

4.12.1.3.5 Whitefish Alternative A(FOUR-LANE)

Within this section approximately 6.48 hectares (16 acres) of habitat will be converted. The majority of habitats disturbed will be urban. However, a small amount of riparian habitat also will be disturbed along the Stillwater River.

Impacts to general wildlife will be the same as those described for the previous sections. However, no big game winter range has been identified within this segment.

The Whitefish River is the only aquatic habitat crossed by this section. However, like the Stillwater River, the Whitefish River does not support a significant resident fish population. Therefore, any impacts from road construction will be minimal and similar to those described above.

4.12.1.3.6 Whitefish Alternative C

Impacts associated with this section will be similar to those described in the previous section. The amount of habitat impacted by this section will be approximately the same. Also, the types of habitats to be impacted will be the same, as well as the number of stream crossings.

There is variation within the Whitefish sub-alternatives. Alternatives C(COUPLET-2) and C(COUPLET-3) **(preferred)** will both impact a wildlife habitat area along the Whitefish River. Although this area will be

bridged, its usefulness as wildlife habitat will be severely compromised. Alternative C(COUPLET-4) will result in impacts due to the widening of the Baker Street bridge over the Whitefish River.

4.12.1.3.7 Whitefish to Western Terminus of Project

Approximately 10.94 hectares (27 acres) of habitat will be converted. The majority of habitats impacted are coniferous forest, however some urban habitats will be affected. Impacts to wildlife for this section will be the same as those described for the Somers-Kalispell section.

4.12.2 Mitigation

Mitigation measures that will be implemented to minimize impact to fishery and wildlife resources include:

1. Proper erosion control techniques will be utilized during construction, including the use of soil retention blankets, silt fences and hay bales where needed. Areas disturbed during construction will be revegetated. All construction equipment will be serviced away from any stream crossings preventing the accidental spill of petroleum products into waterways.

2. Bridge structures or underpasses will be **sized to accommodate wildlife if possible.** Crossing of major watercourses will be done in a perpendicular manner as much as possible.

3. Loss of trees will be avoided wherever possible.

4.13 Floodplains

Existing floodplain conditions are described in Section 3.12.

4.13.1 Impacts

4.13.1.1 No-Build Alternative

The No-Build Alternative has no floodplain impacts. There are no risks of new flooding incurred, no impacts on natural and beneficial floodplain values, and no support of probable incompatible floodplain development.

4.13.1.2 Impacts Common to All Build Alternatives

Floodplain impacts related to the Somers to Whitefish project will be minimal in general, due to specific aspects of the possible alternatives. Encroachments on the floodplain will be minimal. Floodplain hydraulics will not be appreciably changed or modified. The build alternative generally cut across the impacted water features as opposed to running parallel to them. This cross-cutting configuration, while not always perpendicular, limits the impacts to specific points of intersection instead of lengthy stretches of adjacency and interaction. The majority of the floodplains that are crossed by the alternatives have narrow and steep cross sectional grades.

Flooding risks are negligible in all alternatives since roadway elevations are set above the 100 year flood levels as a result of design requirements.

Impacts on natural and beneficial floodplain values are insignificant. The footprint of fill placed within the floodplain is minimal when compared to the total extent of the floodplain surface area. Roadway fill will not be allowed to impact the natural stream channel, and will not be allowed to encroach into floodplains beyond that which will create **0.15 meter (0.5 foot)** of standing backwater during a predicted 100 year flood event. These minimal encroachments if they occur will not be allowed to result in a loss of significant flood conveyance or storage. Impacts due to increased turbidity during construction will occur. These will be temporary and localized. All floodplain crossings except Patrick Creek are relatively narrow with steep embankments. Patrick Creek, however, is a broad, flat lowlands floodplain with a small channel. Due to its broad nature the Patrick Creek encroachment calculations are large relative to the size and flow of the channel. There is a larger than expected difference between A(MEDIAN) and A(TURN-LANE) due to the shift east of Alternative A(MEDIAN) at this location.

Support of probable floodplain development is not anticipated for any alternative since most of the floodplains and their crossings are located on the rural sections of the project. Also the steep, narrow and compact physical character of the floodplains at these points discourage development within their own boundaries.

All proposed alternatives are consistent with local state and federal floodplain and water resource management programs. Impacts to the floodplain have been minimized by following standard stream crossing design criteria, avoiding direct impacts on stream channels, and adjusting alignments where possible. All practical measures to minimize harm to floodplains have been incorporated.

4.13.1.3 Quantities of Floodplain Encroachment

The following table describes the potential impact locations, the type and number of crossing structure(s), and the areas of encroachment within the 100-year flood level.

Table 4-31
100-Year Floodplain Impacts

Alternative	Location	Type of Structure(s)*	Sq. Meters (Sq. Ft.) of Encroachment
A(MEDIAN), A(COMBO)	Patrick Creek	box culvert	14,945 (49,000)
A(TURN-LANE)	Patrick Creek	box culvert	8,967 (29,400)
A(MEDIAN), A(TURN-LANE), A(COMBO)	Ashley Creek	concrete bridge	9.3 (100)
A(MEDIAN), A(TURN-LANE), A(COMBO)	Stillwater River	concrete bridge	9.3 (100)
A(FOUR-LANE), C(OFF-SET)	Whitefish River (south)	concrete bridge	6.98 (75)
A(MEDIAN), A(TURN-LANE), A(COMBO)	Whitefish River (north)	concrete bridge	4.65 (50)
A(MEDIAN), A(TURN-LANE), A(COMBO)	Skyles Lake	--	(0) 0
A(MEDIAN), A(TURN-LANE), A(COMBO)	Spencer Lake	--	(0) 0
B(MEDIAN), B(TURN-LANE)	Ashley Creek (south)	box culvert	2,408 (25,900)
B(MEDIAN), B(TURN-LANE)	Ashley Creek (north)	3 box culverts	16,163 (173,800)
B(MEDIAN), B(TURN-LANE)	Ashley Creek @ US 2	box culvert	5,682 (61,100)
B(MEDIAN), B(TURN-LANE)	West Spring Creek	box culvert	11,253 (121,000)
C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)	Whitefish River @ Baker Avenue	concrete bridge	4.65 (50)
C(COUPLET-2), C(COUPLET-3)	Whitefish River @ 7th Street	concrete bridge	11.63 (125)

**Note: These are structures used to calculate the encroachment. The type of structure ultimately used may vary from what is shown in this table, as determined during the final design process.*

4.13.2 Mitigation

Mitigation that will be provided to minimize impact to floodplains includes:

1. Use of standard MDT erosion control techniques to minimize impact to natural and beneficial floodplain values during construction.

2. Coordination with Flathead County related to any floodplain encroachment.

4.14 Threatened or Endangered Species

Existing threatened or endangered species conditions are described in Section 3.14.

4.14.1 Impacts

4.14.1.1 No-Build Alternative

The No-Build Alternative will have no impacts to any threatened or endangered species.

4.14.1.2 Impacts Common to All Build Alternatives

4.14.1.2.1 Bald Eagle

Although several bald eagle nests occur in the general project area, all occur more than one mile from any of the proposed corridors. In addition, any eagles utilizing the area are accustomed to highway-related disturbances. **No known mortality of bald eagles feeding on road-kill deer has occurred.** Therefore, no adverse indirect, direct, or cumulative impacts are anticipated to bald eagles or their nests as a result of any of the proposed alternatives. In addition, no mitigation measures are recommended to reduce potential impacts on eagles.

4.14.1.2.2 Peregrine Falcon

No peregrine falcons are known to occur in the general area, although some peregrines may occur during their seasonal migrations. Therefore, no adverse indirect, direct, or cumulative impacts are expected to the peregrine falcon. In addition, no mitigation measures are proposed for the peregrine falcon.

4.14.1.2.3 Sensitive Species

Ten sensitive species potentially occur within the project area. However, only one may experience adverse effects from the project (if it is indeed present).

One sensitive plant may potentially occur within the corridor. Western witchgrass is associated with marsh areas near Spencer Lake within the Whitefish to northern terminus section of the corridor. However, habitat for this

species is not expected to be impacted by the project. Therefore, no adverse indirect, direct, or cumulative impacts are anticipated for this species.

No other sensitive species are known to occur near or within any of the proposed corridors. Therefore, no direct or cumulative impacts to any sensitive species are anticipated. In addition, no mitigation measures are proposed for any sensitive species.

4.14.1.3 Coordination

Coordination with the US Fish and Wildlife Service has been undertaken. Copies of letters from the US Fish and Wildlife Service are in **Volume II and the Draft EIS**.

The USFWS has concurred in the determination that the build alternatives are not likely to adversely affect threatened or endangered species (USFWS, January 1994).

4.15 Cultural Resources

Existing cultural resource conditions are described in Section 3.15.

4.15.1 Impacts

4.15.1.1 No-Build Alternative

The No-Build Alternative will have no effect on the eligible, formally recorded cultural resource properties located within or near the project area.

4.15.1.2 Impacts Common to All Build Alternatives

Potential direct effects associated with the proposed project to eligible, formally recorded, cultural resource properties will include both physical and visual effect. Direct physical effect includes ground disturbing construction activities that result in the alteration of eligible cultural resources. With regard to historical properties, this includes the destruction and/or removal of buildings, structures and landscaping elements from their original locations. Properties eligible under National Register criteria A, B, C or D may be impacted by direct physical effect.

In addition to direct physical effect, the proposed project may directly affect visual characteristics of the setting of eligible historical properties. The impact resulting from visual effect is considered only in relationship to cultural resource properties for which integrity of setting is an important integral component of eligibility. These types of properties are usually those eligible under National Register criteria A or B. Cultural resource properties eligible only for their architectural value (criterion C) or their informational potential (criterion D) tend not to be susceptible to, or adversely affected by, visual effects.

4.15.1.3 Alternative A(MEDIAN), A(TURN-LANE) and A(COMBO)

No direct physical impact or indirect impacts to eligible properties within Kalispell or Whitefish or properties contributing to the Kalispell Commercial Historic District, the proposed Whitefish Historic Business District (WHBD) or proposed Whitefish Historic Residential District (WHRD) are anticipated due to the minimal nature of the proposed construction associated with these alternatives.

There are **five** eligible properties located outside of the urban areas of Kalispell and Whitefish that are **adversely** affected by these alternatives. They include a railroad spur, two farm sites**, properties on West Second Street and the Kalispell Courthouse Historic District (see Figure 4-7)**.

The Kalispell -Somers Railroad Spur (24FH350) runs parallel to US 93 between Somers and a point three miles south of Kalispell where it is crossed by the highway. Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) will have direct physical impacts to this historic property. Direct physical impacts to the Railroad Spur have previously been determined to have an adverse effect requiring mitigation through signage. A Memorandum of Agreement (MOA) **(dated 6/13/90)** has been previously prepared for these properties as part of the 1991 *Environmental Assessment*. These impacts, avoidance alternatives and mitigation are also addressed in Chapter 5.

The two farm sites, the Altenburg Farm (24FH276), and McCormack Farm (24FH277), south of Kalispell are both well away from the existing road. None of the proposed alternatives will create direct physical impacts to these properties. The change from a predominantly two-lane to a four-lane facility will create visual and audible impacts resulting from traffic locating closer to the properties that may affect these two eligible properties. These properties are also included in the **6/13/90** MOA referenced above for the Railroad Spur.

In Kalispell, adverse effects to the Kalispell Courthouse Historic District were documented as a part of the 6/13/90 MOA for the previous project. Between Ninth and Twelfth Streets, improvements to Main Street would occur within the limits of the existing pavement. Parking will be eliminated to provide for four 3.66-meter (12-foot) lanes. Trees will remain along the street and should not be affected by the replacement of curb and gutter or sidewalk. The new sidewalk will be placed at a higher grade to protect tree roots. Three trees will have to be removed to widen at the beginning of the couplet around the courthouse. The widening will take place on the side of the street away from the Courthouse.

West of Whitefish (adjacent to the West Second Street properties), proposed construction activities would include widening the existing two-lane, 14-meter (46-foot) wide paved roadway to a 18.3-meter (60-foot) roadway consisting of three 4.27-meter (14-foot) lanes, one 1.53-meter (five-foot) detached sidewalk and one 2.44-meter (eight-foot) sidewalk. All construction, however, would be confined to the existing right-of-way. No trees would be removed. Although the existing buildings would remain intact and their historic significance perpetuated, the addition of sidewalks where none currently exist would constitute an Adverse Effect to the setting of the historic neighborhood. The SHPO has concurred with this determination and it is addressed in the 9/1/94 MOA.

4.15.1.4 Alternatives B(MEDIAN) and B(TURN-LANE)

Four historic properties have been formally recorded and are eligible for the NRHP along the Alternative B alignment. **(The Draft EIS also discussed impacts to the Simmons House, which has now been**

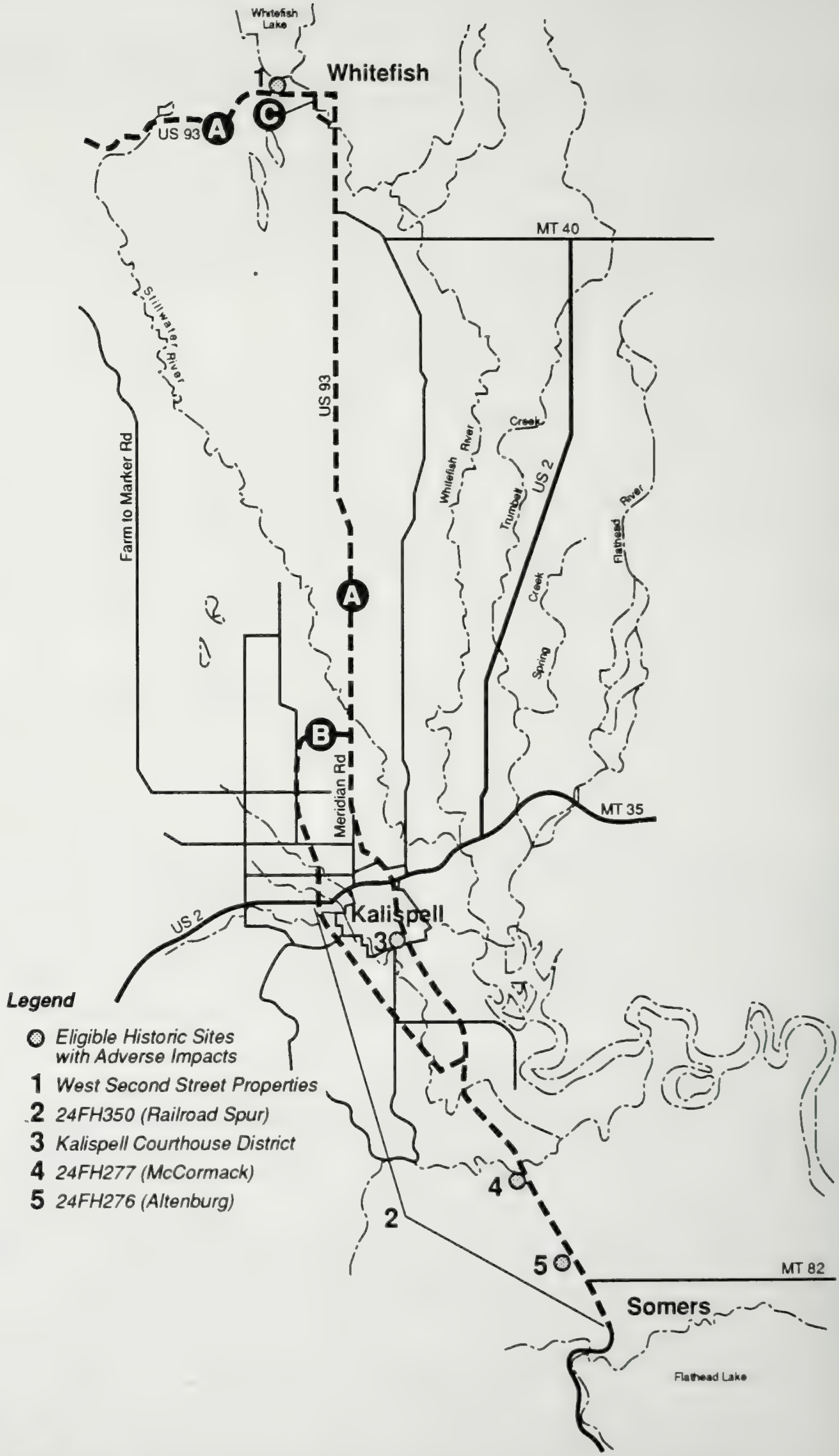

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Figure 4-7
Eligible Historic Sites with Adverse Impacts

determined not eligible for the NRHP.) These properties are the Kalispell - Somers Railroad Spur (24FH350), McDonnell Place (24FH496), **Byrne** Farm (24FH493), and the Don Schultz Place (24FH494). Other properties recorded along the route may also qualify for the NRHP, but they are substantially physically separated from the proposed right-of-way and will not be impacted by the alternative alignment.

Direct physical impacts and adverse effects to the railroad spur will occur if either alternative is implemented. These impacts, avoidance alternatives considered and mitigation are addressed in Chapter 5.

A determination of No Adverse Effect has been made for the McDonnell Place (24FH496) and the Dan Schultz Place (24FH494). The Byrne Farm is outside the area of impact and would thus not be impacted.

As addressed in Section 3.15.5, the rural setting in the area of the alternative alignment has already been changed to a more urbanized environment, so the area no longer would be considered a rural historic landscape.

4.15.1.5 Alternative C(COUPLET-3)

No direct physical or indirect impacts would occur **on Baker Avenue or Spokane Avenue** to properties contributing to the Whitefish Historic Residential District or Whitefish Historic Business District with any of these alternatives since no additional travel lanes will be added.

4.15.2 Coordination

Coordination with the SHPO has occurred and concurrence has been reached on Determinations of Eligibility **and Effect**. Coordination letters, the **6/13/90 MOA and the 9/1/94 MOA** are in Volume II.

4.15.3 Other Cultural Sites

The Flathead Culture Committee of the Confederated Salish and Kootenai Tribes has identified a concern relating to the proposed project.

The Committee has stated the following:

> "If the alignment remains close to the current centerline the likelihood of encountering cultural material is not as great as if the alignment is moved from the existing corridor. Due to the high probability of encountering cultural material outside of the disturbed area we would recommend that close communication be maintained with the Flathead Culture Committee throughout the decision-making process." **Specific areas and activities of concern which were identified in field visits are earth moving or excavation activities on previously undisturbed land.**

Therefore, Alternatives B(MEDIAN) and B(TURN-LANE), would be of concern to the committee since it is not along an existing corridor. However, no specific sites or locations along Alternative B have been identified.

4.15.4 Mitigation

At 24FH350 (the railroad spur) on Alternative B, the MDT proposes to install a historic marker describing the history and significance of the Somers Branch of the Great Northern Railway. The market text will be identical to that determined suitable as part of the Somers to Kalispell segment of this project.

For the Whitefish Residential Historic District, the MDT proposes to conduct additional survey work and prepare the nomination of the district to the National Register of Historic Places. When the nomination has been completed and accepted by the NRHP, the MDT will then prepare a NRHP sign to the local historical society describing the Whitefish Residential Historic District and its significance to the history of the community.

The MDT will conduct monitoring at the Altenburg and McCormack farms to assess the visual and audible impacts to the site before, during and after construction. The results of the monitoring will be provided to SHPO and the ACHP within 18 months of the completion of construction.

If construction in the Kalispell Courthouse Historic District results in the removal of any trees, they will be replaced in kind by the Department.

Other mitigation includes:

- Continued communication with the Flathead Culture Committee regarding cultural materials of concern to the Committee.

Copies of coordination with the State Historic Preservation Office are in Volume II.

4.16 Parks and Recreation Impacts

4.16.1 General

The following is a detailed description of parks and recreational impacts within the Somers to Whitefish study area, particularly those closely related to the US 93 corridor. Section 4(f) properties that will be subject to specific direct or constructive use conversions as a result of the alternatives will be discussed in Chapter 5 of this DEIS.

Parks and recreation opportunities within the study area are heavily dependent on the existing and future transportation network. Over the next 20 years parks and recreation sites located within the project area will attract growing numbers of visitors, while regional population and tourist numbers continue to gradually rise as the socioeconomic forecasts suggest.

Increased traffic through the Highway 93 corridor, a product of this projected growth, will create additional noise, air pollution, accident potential, congestion and visual impacts on these public properties. These impacts will occur with both the build and the no-build alternatives. While these impacts may difficult to prevent they can be mitigated by improving access to some off highway sites and improving safety conditions around those sites adjacent to the highway. Generally, the build alternatives will result in improved access, safety and pedestrian and bicycle conditions.

4.16.2 Impacts to Parks and Recreation Areas

Lone Pine State Park

There are no direct impacts to the Lone Pine State Park or the larger Lone Pine State Game Preserve anticipated as a result of Alternative B(MEDIAN) or B(TURN-LANE). Although these alternatives pass close, within 305 meters (1,000 feet) of these areas, they are already experiencing a high degree of human disturbance and addition of this corridor would not be significant. There is considerable residential property contained within these areas. Although designated as a preserve, the surrounding areas are not currently managed for any wildlife species. The addition of the bypass is not expected to impact these properties.

Daley/Bert Holler Fields

The No-Build alternative will have no direct impact on the park, although access and safety problems will continue. Increases in noise and visual impacts will also occur.

No further right-of-way will be required along this park frontage for any of the build alternatives. Each of the proposed build alternatives [A(MEDIAN), A(COMBO) and A(TURN-LANE) will encroach upon a grass covered buffer strip aligning the eastern edge of the property, thus reducing the width of the buffer area. This grass strip is within MDT right-of-way.

Minor access impacts and minor hardscape changes to grassy areas including pavement and possibly curb and gutter will occur along the frontage of this property relating to all of the build alternatives. Alternative A(MEDIAN) will require the conversion of .04 hectares (0.11 acres) of grassy area to paved surface. Alternative A(TURN-LANE) will require the conversion of .03 hectares (0.07 acres) of grassy area to paved surface. Alternative A(COMBO) will require the conversion of .03 hectares (0.07 acres) of grassy area to paved surface.

None of the build alternatives will displace public parking or disrupt the use of any of the ballfields. The landscaped buffer area contains a drainage ditch which can be maintained during construction and after the improvement is completed. The build alternatives will result in improved pedestrian circulation and safety.

Access and safety problems which presently occur at the park's east entrance along US 93, will likely be improved by the implementation of any build alternative, since overall road capacity and safety conditions will be improved.

There will be slight increases in noise and increases in the difficulty of pedestrian movements across US 93 associated with all the alternatives, as traffic volumes increase. Alternative A(MEDIAN) will include a median which can be used as a pedestrian refuge.

All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 71-73 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels. This is not perceptible by the human ear. The existing noise level is 68 dB(A) Leq.

Lions Park / Haven Field

The No-Build Alternative will have no direct impact on these parks, although increased traffic will result in increased noise and visual impacts.

Minor hardscape changes to grassy areas including pavement and possibly curb and gutter will occur along the frontage of this property relating to all of the build alternatives. Alternative A(MEDIAN) will require the conversion of .04 hectares (0.11 acres) of grassy area to paved surface. Alternative A(TURN-LANE) will require the conversion of .03 hectares (0.07 acres) of grassy area to paved surface. Alternative A(COMBO) will require the conversion of .03 hectares (0.07 acres) of grassy area to paved surface. The affected frontage is within MDT right-of-way.

None of the improvements will disrupt use of the Lion's Park tourist information center, the Haven ballfields or the batting cage west of the ballfields. The build alternatives will result in improved pedestrian circulation and safety, and will not displace any parking. Alternative A(MEDIAN) will include a median.

Although there no right of way changes along this frontage there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 71-73 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels and not perceptible by the human ear. The existing noise level is 68 dB(A) Leq.

Ashley Creek Recreation Trail / Rails to Trails

Direct and indirect impacts will occur to Ashley Creek Recreation Trail/Rails to Trails as a result of implementation of Alternative B(MEDIAN) and B(TURN-LANE). These are discussed in Chapter 5.

Depot Park

None of the alternatives will have any direct impact on Depot Park. All of the alternatives share the same right-of-way configuration within the urbanized areas of the project. There will be no further or extended right-of-way required in these areas.

Although there is no direct impact to this property there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 67-68 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels and not perceptible by the human ear. The existing noise level is 67 dB(A) Leq.

Buffalo Hill Golf Course

None of the build alternatives will have any direct impact on Buffalo Hill Golf Course. All the alternatives will share the same right-of-way configuration within the urbanized areas of the project. There will be no further or extended right-of-way required in these areas.

Although there is no direct impact to this property there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 66-67 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels and not perceptible by the human ear. The existing noise level is 65 dB(A) Leq.

Riverside Park

Impacts to Riverside Park resulting from the conversion of Baker Avenue to the southbound leg of a US 93 one-way couplet through Whitefish will include increased noise and congestion associated with increased traffic along Baker Avenue, elimination of existing northbound traffic access to users south of the park, and higher vehicle speeds. The impervious surface will be widened variably according to the specific alternative, the direct impacts related to these change in cross-section are below. Associated improvements, including addition of curb and gutter along Baker Avenue will remain within the existing road right-of-way.

A positive benefit will occur as a result of the provision for a future pedestrian underpass along the river, under Baker Avenue.

Direct impacts are:

- Alternative A(FOUR-LANE): No Impact
- Alternative C(OFF-SET): .09 hectares (0.21 acres) of vegetated area (grass) converted to pavement.
- Alternative C(COUPLET-1): .05 hectares (0.13 acres) of vegetated area (grass) converted to pavement.
- Alternative C(COUPLET-2): .05 hectares (0.13 acres) of vegetated (grass) converted to pavement.
- Alternative C(COUPLET-3): .05 hectares (0.13 acres) of vegetated area (grass) converted to pavement.
- Alternative C(COUPLET-4): .09 hectares (0.21 acres) of vegetated area (grass) converted to pavement.

Although there are no right of way changes along this frontage there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 68 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is 2 decibels or less and not perceptible by the human ear. The existing noise level is 62 dB(A) Leq.

Minor access impacts and minor hardscape changes to grassy areas (including pavement and possibly curb and gutter) will occur along the frontage of this property relating to all of the build alternatives.

Whitefish Lake Golf Club

The No-Build Alternative will have no direct impacts to this property. Indirect impacts will occur due to increased traffic, including noise, visual and difficulties in pedestrian access.

There will be minor impacts to the Whitefish Lake Golf Club as a result of the build alternatives. All three alternatives provide for the addition of one lane of traffic increasing the current two lanes to three in this area. This will result in the conversion of .18 hectares (0.44 acres) of grassy frontage area to pavement. This grassy frontage area is within MDT right-of-way, so no direct conversion of park property will occur. Minor reshaping of the road frontages will be required for each alternative but there will be no impact to existing infrastructure or facilities. The build alternatives include provisions for improving pedestrian circulation at this point.

Although there are no right of way changes along this frontage there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 67-68 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels and not perceptible by the human ear. The existing noise level is 66 dB(A) Leq.

Whitefish Tennis Courts/Soccer Fields

The No-Build Alternative will have no direct impacts to this property.

There will be minor impacts to the Whitefish Tennis Courts / Soccer Field Complex as a result of the build alternatives. All three alternatives provide for the addition of one lane of traffic increasing the current two lanes to three in this area. This will result in the conversion of .04 hectare (0.11 acres) of grassy frontage area to pavement. This grassy frontage area is within MDT right-of-way, so no direct conversion of park property will occur. Minor reshaping of the road frontages will be required for each alternative but there will be no impact to existing infrastructure or facilities. The build alternatives include provisions for improving pedestrian circulation at this point.

Although there are no right of way changes along this frontage there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 67-68 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels and not perceptible by the human ear. The existing noise level is 66 dB(A) Leq.

Skyles Lake Access

None of the proposed alternatives will result in the direct impact of Skyles Lake Access.

Although there are no right of way changes along this frontage there are indirect impacts relating to noise. All of the proposed alternatives including the No-Build will contribute to indirect noise impacts to this park. Neither the existing, the No-Build or any of the build alternatives meet the Noise Abatement Criteria. The future noise level with Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) is predicted to be 66-68 dB(A) Leq. The difference in calculated values between the No-Build alternative and Alternatives

A(MEDIAN), A(TURN-LANE) and A(COMBO) is less than 2 decibels and not perceptible by the human ear. The existing noise level is 67 dB(A) Leq.

Table 4-32 and 4-33 summarizes impacts to park and recreation areas along the study corridor, and the noise level relationship between existing conditions, the No-Build and all the build alternatives as interpolated from noise modeling described in Section 4.9 of this document. These figures are assumed to apply at or near pavement edge for all listed properties.

Table 4-32
Parks and Recreation Areas Direct Impacts
Hectares (acres)

Property	No-Build	Preferred Alternative
Lone Pine Preserve	No Impact	No impact
Daley / Bert Holler	No impact	0.03 (0.07)
Lion's Park / Haven	No impact	0.03 (0.07)
Ashley Creek Recreation Trail	No impact	0.10 (0.25)
Depot Park	No Impact	No impact
Buffalo Hill Golf Club	No Impact	No impact
Riverside Park	No Impact	0.05 (0.13)
Whitefish Lake Golf Club	No impact	0.18 (0.44)
Whitefish Tennis / Soccer	No impact	0.04 (0.11)
Skyles Lake Access	No Impact	No impact

Note: All of the direct impacts described in this chart occur on property within MDT right-of-way.

Table 4-33
Parks and Recreation, Noise Levels in dBA Leq

4 (f) Property	Existing	No-Build	All Build Alternatives
Daley / Bert Holler	68	70-72	71-73
Lion's Park / Haven	68	70-72	71-73
Ashley Creek Recreation Trail	50-55	50-55	66
Depot Park	67	67-68	67-68
Buffalo Hill Golf Course	65	66-67	66-67
Riverside Park	62	66	68
Whitefish Lake Golf Club	66	67-68	67-68
Whitefish Tennis/Soccer	66	67-68	67-68
Skyles Lake Access	67	66-68	66-68

4.16.3 Mitigation

Ashley Creek Recreation Trail

This mitigation is described in Section 5.4.1.

Daley / Bert Holler Ballfields

The east access along US 93 will be eliminated entirely in conjunction with improvements of US 93. In order to mitigate the loss of this highway access the gravel drive along the eastern edge of the park and in front of the ballfields, will be extended to the south to create a new access at the southern end of the park. This will then be used as a one-way drive.

Lion's Park / Haven Field

The landscaped drainage area along the park's western edge will be maintained during and subsequent to construction of any proposed improvement to the adjacent highway. Utility poles located adjacent to the highway on the park's west edge may need to be relocated prior to construction.

Riverside Park

The bridge over the Whitefish River will be designed to accommodate a future pedestrian or bike path along the river.

Whitefish Golf Course

Landscape buffers **are planned in raised medians to** reduce the visual impact of the increased street width.

4.17 Hazardous Materials

Existing hazardous materials information is described in Section 3.16.

4.17.1 Impacts

4.17.1.1 Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO)

A total of 103 potential hazardous materials sites located adjacent to, or within, the existing US 93 right-of-way and six potential hazardous materials sites located adjacent to, or within the conceptual Kalispell bypass corridor are identified in Chapter 3.16 of this document. Figure 4-8 shows **potential** hazardous materials sites impacted **as a result of implementation of each of the build alternatives.**

Each of the alternatives proposed for the section of US 93 South, from Somers to Snow Line Road, result in unavoidable impacts to Site 103 (the historic Burlington Northern track bed). The site is located within the existing highway right-of-way. MDT has already purchased the railroad right-of-way to accommodate highway expansion.

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Figure 4-8

Potentially Impacted Hazardous Materials Sites

Proposed improvements to this section of the highway will encroach upon Sites 86 (Parker Livestock Supply/Swallow Grain) and Site 88 (Long Machinery). Alternatives A(MEDIAN) and A(COMBO) will impact a slightly larger area of these sites than A(TURN-LANE). For Site 86, mitigation measures similar to those required for Site 103 will be implemented before roadway construction (Alternatives A(MEDIAN) and A(TURN-LANE)) occurs within the area currently used for rail deliveries to this site. Proposed roadway improvements which include new pavement and adjacent landscaping, however, will reduce the potential for soil leaching or spread of airborne materials within each alignment proposed for this segment. Based on the nature of these improvements near these sites, potential impacts to the environment and humans will be minimized and no additional mitigation action will be required.

The likelihood of encountering substantial amounts of harmful contaminants along US 93 is minimal, and new pavement will reduce direct exposure to potential soil contaminants located within the proposed roadway of each alternative. New roadway construction upon five sites located adjacent to the roadway between Mileposts 110.0 and 111.5 could involve some exposure to potential soil contaminants. Sites 46 and 48 (former auto services), 70 (SSS Canopies/Campers), 72 (Swartzenberger's Wrecking & Auto Repair), and 73 (R&J Wrecking) have inadequate landscaping and exposed soil within the roadside drainage area fronting each property. Petroleum hydrocarbons are the most likely contaminants to be found in the surface soil at these locations.

Each of the proposed improvements to US 93 between Kalispell and the intersection of US 93 and MT 40 will encroach upon Sites 19 (Whitefish Taxidermy), 22 (Shirno Cabinets), 24 (Glacier Log Homes), 25 (North Valley Refuse), 26 (OHS Body Shop), 27 (auto dealer), 28 (Midway Mini Mart), 30 (KMJ Radiator), 35 (residence), and 37 (M&T Auto Body). Alternatives A(MEDIAN) and A(COMBO) will likely require relocation of Site 30 due to substantial displacement of the parking area by new pavement construction.

Two service stations, Sites 3 and 5, located on either side of US 93 south of the Whitefish River are listed on the Montana Department of Health and Environmental Sciences (MDHES) Leaking Underground Storage Tanks (LUST) list and will be impacted by the proposed improvements.

Each of the alignment alternatives proposed for US 93 will encroach upon Sites 1 and 2 (auto services), located west of the Whitefish River. Due to the minimal likelihood of encountering harmful soil contaminants within the proposed right-of-way, potential impacts to these sites will not be cause for concern, and no mitigation measures beyond normal paving activities, will be necessary for these sites.

4.17.1.2 Alternative B

Alternative B, the Kalispell bypass route, will impact up to six potential hazardous materials sites. Impacts as a result of Alternative A(MEDIAN) and B(TURN-LANE) are identical. Two of these sites are located directly within the likely right-of-way alignment proposed for this new roadway.

Site B1, an active railroad spur track, is located within a substantial portion of Alternative B. In the event that the existing track is abandoned and becomes available for redevelopment as a bypass route, its entire length will be considered as a potential contaminant risk.

Alternative B bisects Site B6 (Montana Forest Products), and this site will undergo soils analysis and possible mitigation prior to construction of new roadway.

Impacts to Site B2 (Wisher's Salvage) will be avoided by shifting the roadway alignment west to avoid this property. Potential impacts to Sites B3 (private maintenance garage), B4 (salvage yard), and B5 will not be

cause for concern due to the minimal likelihood of harmful contaminants contained on these sites. Site B5 (former North American refinery) was investigated in 1988 by a geotechnical contractor to the MDHES Solid and Hazardous Waste Bureau. The Final Report of this investigation concluded that, "The site will be considered fully investigated and needs no further action. No hazard ranking is needed because there is no waste quantity."

4.17.2 Mitigation

Detailed hazardous materials analyses, including sampling and testing of questionable soils or water will be conducted during the design of the preferred alternative.

Underground Storage Tanks (USTs) located adjacent to the highway on Sites 2, 3, 5, 28, 45, 50, and 59 will be located prior to construction so that potential contact with the fuel tanks can be avoided during construction. Before roadway construction occurs on these sites, soil located adjacent to the roadway on these sites should be analyzed to determine if existing petroleum levels are higher than those accepted by the MDHES for this type of project. If so, mitigation possibilities include excavation of contaminated soil, or landfarming (spreading contaminated soils over an evenly-distributed area and providing the area with nutrients and vegetation). For the Burlington Northern trackbed located between Somers and Snowline Road, the right-of-way purchase agreement between MDT and railroad representatives requires specific pre-construction mitigation responsibilities of both parties involved in the property transaction. Upon completion of the remedial action mandated by this purchase agreement, no subsequent mitigation will be necessary for this site.

For Site B6, excavation and /or landfarming of potentially-contaminated soils are possible mitigation measures and will be implemented (if necessary) in concert with roadway construction. For the railroad track along Alternative B, removal of all track materials and surrounding surface soils **is recommended** before it is converted to new public right-of-way.

4.18 Visual

Existing visual conditions are described in Section 3.17.

4.18.1 Impacts

Visual impacts associated with this project can be described in terms of views from the roadway and views of the roadway. Visual impacts were evaluated based on the predicted response of viewers to any changes. Known concerns about visual impacts are:

- Concern about the visual impact of billboard proliferation.
- Concern about the visual impact of unrestricted adjacent development.
- Concern about maintaining and enhancing the character of certain "special" areas along the corridor.

4.18.1.1 No-Build Alternative

There will be visual impacts associated with the No-Build Alternative. Although no impacts are associated with the increase in pavement width, there are no opportunities to enhance visual quality associated with the design elements described in Section 2.4.4.3.

It is likely that this alternative will result in continued degradation of visual quality. Unplanned commercial and industrial development will occur in areas currently used for agriculture. This will tend to obscure the long vistas, confining views to the new foreground development. Additional driveway access will occur in a generally unorganized fashion.

4.18.1.2 Short-Term Visual Impacts

All build alternatives will result in short-term visual impacts during the period of construction. These will include:

- Stockpiling of excavated material and construction equipment and material.
- Dust and debris resulting from construction activity.
- Vegetation clearing, until revegetation occurs.
- Traffic congestion during construction.

The duration and intensity of visual impacts from construction activity varies by alternative. Alternatives A(MEDIAN) and A(COMBO) tend to be of slightly longer duration for overall construction, but at least some of the construction will occur in areas that are less visible to traffic on US 93. Alternative A(TURN-LANE) will be of slightly less duration but will be most visible to US 93 motorists.

4.18.1.3 Permanent Changes to Visual Character

There are a number of permanent changes to visual character that will occur with the build alternatives. These are described in the following pages and include:

- Expansion of width of pavement.
- Access that is more organized.
- Cut and fill sections.
- Addition of special design features.
- Addition of landscaping.
- Additional structures (such as retaining walls, guardrail and bridges).
- Expanded right-of-way, including the clear zone.

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Figure 4-9
Existing Conditions just North of MT 40

- Changes in adjacent land use.
- Expanded billboard control area.
- Addition of new roadway.

Figures 4-9, 4-10 and 4-11 show an aerial view which illustrates the basic differences in visual character with the different alternatives.

4.18.1.3.1 Pavement Width

The motorist's view of the road with the foreground element of broader pavement will be dramatically different from that provided by the existing road. As shown on Figure 4-12, this pavement expanse will be different with the different build alternatives. Alternative A(TURN-LANE) will result in the most visual impact, with increases in pavement width from approximately 9.15 meters (30 feet) to a range of 23.18 to 25.62 meters (76 to 84 feet), depending on the urban versus rural sections. This will be perceived as a dramatic difference in visual impact. There will be increases in pavement width associated with Alternative A(MEDIAN) also, but in locations with a depressed median, the median will serve an important visual function of visually interrupting the pavement expanse. Although the pavement for the opposite direction of traffic will be seen, the primary visual impact of more pavement will occur in the same lane of travel as the motorist (an increase in pavement from approximately 9.15 meters (30 feet) to approximately 11.59 meters (38 feet). Alternative A(COMBO) will vary in visual impact throughout the corridor.

4.18.1.3.2 Access

The existing roadway is characterized by disorganized, undifferentiated access points. This results in visual character that is chaotic and confusing. The build alternatives will result in an improvement to this chaotic visual character. Access to side properties will be controlled and will be better differentiated, with clearly delineated driveways. Generally, Alternative A(MEDIAN) may result in more consolidation of access than Alternative A(TURN-LANE), although both will be an improvement over the existing situation and the No-Build Alternative.

4.18.1.3.3 Cut and Fill Impact

Noticeable visual impact can occur in areas where a new or expanded roadway does not fit well with existing topography. The majority of the US 93 corridor is generally flat, so there are minimal conflicts with existing topography. The exceptions to this are in the areas south of Whitefish and west of Whitefish. South of Whitefish in the forested section, there is a section where the existing roadway is adjacent to a drop-off in topography to the east. **There will be a large fill area in this location.** West of Whitefish, visual impact will occur, with cut and fill slopes to accommodate climbing lanes and some curve straightening to improve sight distance.

Note: The exact location of this (west offset) is more clearly shown on the aerial photo drawings in Appendix A.

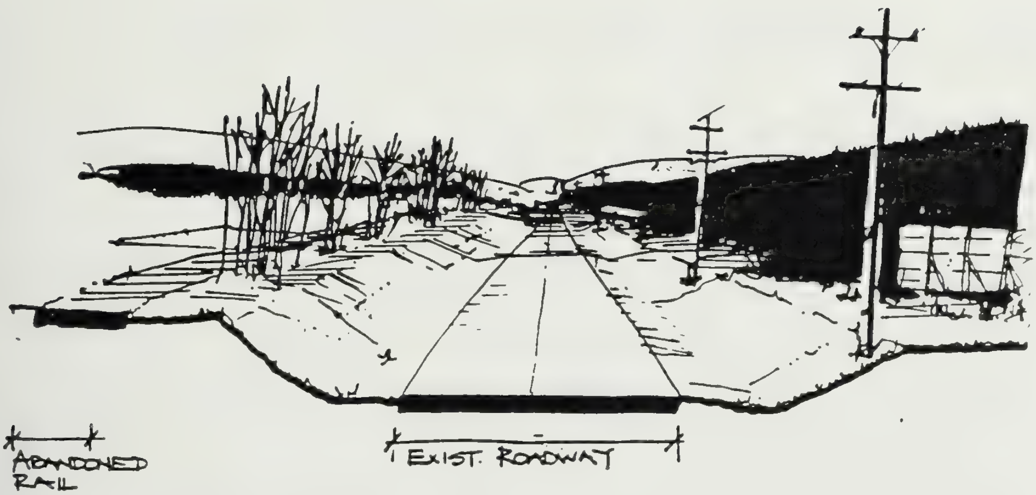
Figure 4-10

Alternatives A(MEDIAN) & A(COMBO) just North of MT 40

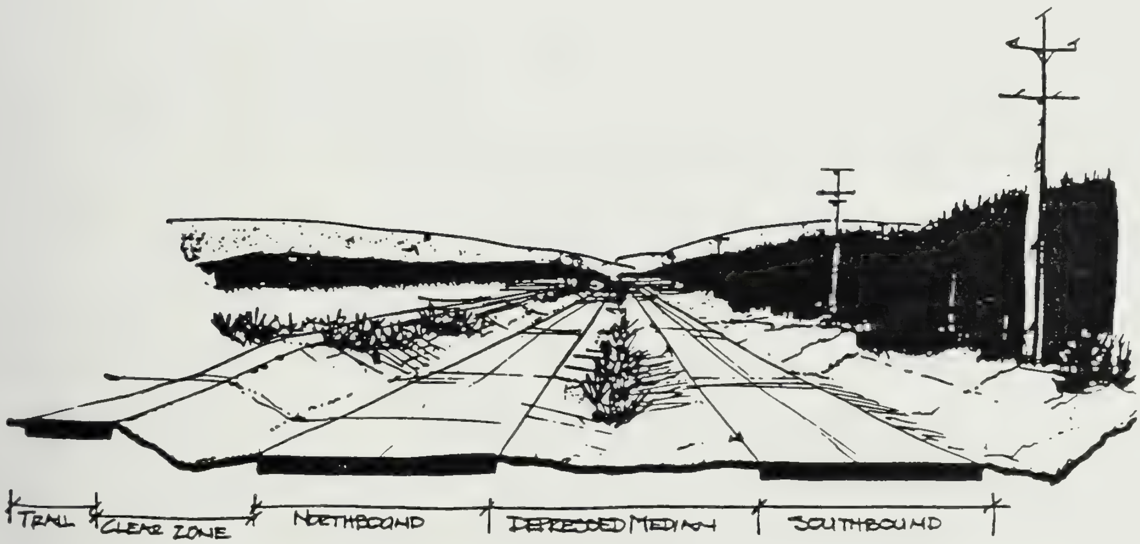
Somers to Whitefish
Environmental Impact Statement

Figure 4-11

Alternative A(TURN-LANE) just North of MT 40



Existing Roadway



Alternatives A(MEDIAN) & A(COMBO)

Figure 4-12
Visual Character at Milepost 106.8
(just north of MT 82)

4.18.1.3.4 Special Design Features

The build alternatives will all result in enhanced visual quality in the areas of the special design features described in Section 2.4.4.3. These design features have been specifically located to enhance scenic vistas, areas of natural resource significance and the gateways to the urban areas.

4.18.1.3.5 Landscaping

Visual character will be enhanced by the addition of landscaping in the median and along the roadsides. Alternatives A(MEDIAN) and A(COMBO) include the greatest amount of landscaping and have been designed to take advantage of existing landscaping where possible.

Mature vegetation will be removed in some locations, resulting in a noticeable loss of the sense of enclosure provided by mature vegetation. An estimated three trees will be removed south of the courthouse in Kalispell.

4.18.1.3.6 Impact of Structures

Overall visual character will be changed by additional structures which will be needed. New bridges are proposed for the crossing of Ashley Creek and the bridge over the Stillwater River will be replaced. These bridges will be noticeable primarily from viewpoints up and down the rivers. Guardrail or bridge rail will be added in some locations and retaining walls may also be used.

Alternative C(COUPLET-3) in Whitefish will result in visual impact due to the intrusion of a new bridge across the Whitefish River at Seventh Street.

4.18.1.3.7 Expanded Right-of-Way Impacts

There are some locations along the US 93 corridor where there will be a visual impact associated with the expanded right-of-way or clear zone. This will be most apparent in the currently forested locations north of Milepost 119 and west of Whitefish. Large vegetation in these areas will need to be cleared to accommodate the clear zone requirements. This will change the visual character somewhat, although south of Whitefish the existing road already includes a relatively wide cleared area. This change will be more noticeable west of Whitefish.

4.18.1.3.8 Land Use Changes

The build alternatives are anticipated to result in differences in location and character of adjacent land use. Based on input gained during the scoping process, these differences result in perceived differences in visual quality as well. Alternatives A(MEDIAN) and B(MEDIAN) and in some locations, A(COMBO), will tend to encourage concentrations of commercial land use at intersections and discourage these uses at mid-block areas. This character of land use could result in blocks of land remaining as open, agricultural uses. From a visual quality standpoint, this will tend to leave intact some of the more expansive views of the Flathead Valley with the mountain ranges in the background. Alternatives A(TURN-LANE) and B(TURN-LANE) will tend to

encourage more of the extension of commercial strips, which will tend to concentrate motorist views more on these foreground elements, with the background views becoming less visible.

4.18.1.3.9 Other Impacts

The space within which MDT has control over some billboards will be expanded with the build alternatives, **because the amount of right-of-way needed will be expanded**. This space extends from the edge of the right-of-way out to a distance of 201.3 meters (660 feet) along primary roads. This does not extend, however, to signs which provide advertising for a use located on the property which actually includes the advertised use.

Outdoor advertising control **(not connected with this project)** can be done in a limited manner through the auspices of the Montana Outdoor Advertising Act and the Administrative Rules of Montana. The law does not prohibit advertising signs. It puts limitations on where they may be placed, how close together and how big they can be, how they may be illuminated, and how they must be maintained, as described here.

- Basically, signs may be placed in areas that are either (1) zoned for commercial or industrial use; or (2) unzoned, but within 183 meters (600 feet) of a full-time commercial or industrial enterprise.

- Signs must be at least 152.5 meters (500 feet) apart along interstate highways and at least 91.5 meters (300 feet) apart along primary highways, such as US 93. They cannot be closer than 152.5 meters (500 feet) from a park, national forest boundary, highway rest area, or from an interstate highway interchange.

- Signs may vary in size, but cannot be larger than 12.2 meters by 18.3 meters (40 by 60 feet).

- Signs may be illuminated, provided they do not imitate traffic signals nor impair drivers' vision.

Two categories of signs are not controlled. They are: (1) signs advertising the least or sale of the property on which they are located; and (2) signs advertising activity on the property on which they are located, such as motel signs, service station signs, or store signs. These are called "on premise" signs and do not require permits. However, they may be subject to local ordinances and regulations.

Flathead County **has a sign ordinance that is more restrictive than state law**. Its provisions are:

- Large off-site and/or billboard/painted bulletin signs are prohibited in portions of Flathead County not covered by a zoning ordinance.

- Signs 32 square feet or smaller are not controlled.

- Signs erected by a government agency are not controlled.

Views of the roadway will be most altered in locations where a roadway does not currently exist. There will be new views of Alternative B around Kalispell, from existing residential and commercial uses. In most cases, however, these views will alter the middle ground landscape while the background remains the same.

Interest has been expressed in the designation of US 93 as a scenic byway, through Montana's Statewide Program which is currently being **studied**. The proposed special design features of any of the build alternatives may increase the likelihood that US 93 could be designated as a scenic byway**, although it is impossible to**

predict whether or not the currently unknown designation criteria and process would permit the designation of US 93 as a scenic byway.

Another visual impact that will occur with the A(MEDIAN) and A(COMBO) alternatives is the effect of lighted raised median areas. Some light pollution may occur in areas adjacent to the raised median areas.

4.18.2 Mitigation

A number of different mitigation techniques are planned to minimize the visual impact of the proposed project. These include:

1. Final design will be done in such a manner as to best fit the new highway within the existing topography. This includes contour grading of cut and fill slopes, sensitive design of roadway alignment and profile and design of roadside signage and lighting. Streetscape treatments within Kalispell and Whitefish will also add to the overall character of the corridor and strengthen the visual character of these communities.

2. Landscape enhancements will utilize only native materials (including trees, shrubs, grasses and wildflowers) that are appropriate for a particular site or area. Care will be taken to avoid installation of species that are palatable to wildlife in areas immediately adjacent to the roadway. Therefore, the objective of revegetation is to properly restore disturbed areas to appropriate native habitats and natural communities.

3. Slope cutting will be done in such a manner as to be compatible with the adjacent slope. This includes such techniques as:

   - Laying the slope back at draws.

   - Modifying slope ratios to reflect existing terrain characteristics.

   - Rounding at the top and bottom to present a softer transition.

4. Design and construction of roadside and median landscape treatments will not produce the desired affect if the maintenance of those features falls short of what is required. MDT will seek assistance from local communities in the maintenance of landscaping and streetscape features. This is especially important at the Kalispell and Whitefish gateway areas. Maintenance includes providing water for plant materials, pruning, mowing, weeding plant beds, and seasonal upkeep.

5. Open road segments in rural areas can be maintained through conventional roadside methods with seasonal mowing and trash pickup. Local groups can also be enlisted to maintain roadsides through the state programs.

6. Special light fixtures will be used in sensitive areas to minimize stray light pollution.

4.19 Energy

4.19.1 Impacts

Anticipated impacts related to energy consumption were assessed qualitatively based on predictions of future traffic operations, construction operations and requirements for ongoing maintenance. A significant impact will occur if an unusual amount of energy will need to be expended with no resulting decrease in energy related to use or maintenance.

Vehicular fuel consumption will continue to increase with the No-Build Alternative as traffic congestion increases. Also, this alternative is expected to result in ongoing and increased maintenance requirements, thus increasing maintenance energy consumption.

Vehicular fuel consumption will decrease with all of the build alternatives due to a decrease in traffic congestion.

Energy consumed for construction includes the fuel used by construction vehicles as well as the energy required to produce construction materials. Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) will require similar amounts of energy during construction, although Alternative A(MEDIAN) will have slightly higher consumption due to additional earthwork.

Energy costs associated with maintenance activities includes energy used to clear, de-ice, patch and otherwise provide a safe surface for transportation are included. The long term maintenance fuel consumption, will increase with either of the build alternatives due to greater area of roadway surface to clear and de-ice and otherwise maintain.

4.19.2 Mitigation

Procedures available to reduce energy consumption during construction include:

1. Maximum use of on-site material to reduce haulage of materials.
2. Design for repetitive dimensions to permit re-use of forms.
3. Adequate construction vehicle maintenance
4. Adequate construction phasing and detour plan.
5. Turning off equipment when not in use.
6. Design of construction access roads and staging areas to limit distances traveled.

4.20 Implementation

4.20.1 No-Build Alternative

There will be no design, funding or construction impacts associated with the No-Build Alternative.

The No-Build Alternative will result in increased maintenance requirements over time, as pavement conditions deteriorate.

The No-Build Alternative will not have short-term social or economic impacts. No local construction jobs will be created and local businesses will not benefit from purchases made by highway contractors and construction workers.

Construction activities will not create obstacles to customer access to local businesses and will not create interference with agricultural operations, commuter patterns or the lifestyles of persons living near construction sites.

4.20.2 Preconstruction Impacts

Engineering design activities will take more time with Alternatives A(MEDIAN) and A(COMBO), and will proceed more quickly with Alternative A(TURN-LANE). The reason for this is that MDT has already prepared design documents for a five-lane design. These documents do not, however, include Alternatives B(MEDIAN) or B(TURN-LANE) around Kalispell, nor do they include sections through Whitefish and to the west. In addition, design documents for all alternatives will need to be converted to metric units.

Another preconstruction activity which will take varying amounts of time is the right-of-way acquisition process. Alternatives A(MEDIAN) and A(COMBO), which require more right-of-way than Alternative A(TURN-LANE) will take generally more time in the right-of-way acquisition process (see Figures 4-13a, 4-13b, 4-13c and 4-13d).

Different access control alternatives will also require different amounts of time in the right-of-way acquisition process:

- No Access Control will require no additional amount of time beyond that to simply acquire the property.
- Restrictive Access Control may take eight months to as much as two years longer than that to simply acquire the property. This policy will also require a renegotiation of property already in MDT ownership.
- Situational Access Control may take six months to one year longer than that to simply acquire the property.

Right-of-way costs will also vary, depending on the access control policy. Restrictive Access Control will result in additional costs to property owners to compensate for restrictions in access. Generally, if property is agriculturally zoned, little to no additional cost would be needed to purchase access rights. If property is residentially zoned, there would be a cost, but it would not be very great. Commercially or industrially zoned property is the most expensive for purchasing access rights. Situational Access Control policies will also result in some additional costs, although these will be less than with Restrictive Access Control.

It is likely that the overall project will be broken into smaller segments for funding. Each of these segments needs to go through standard MDT processes for funding for design and construction.

SEGMENT: Somers to Ball's Crossing

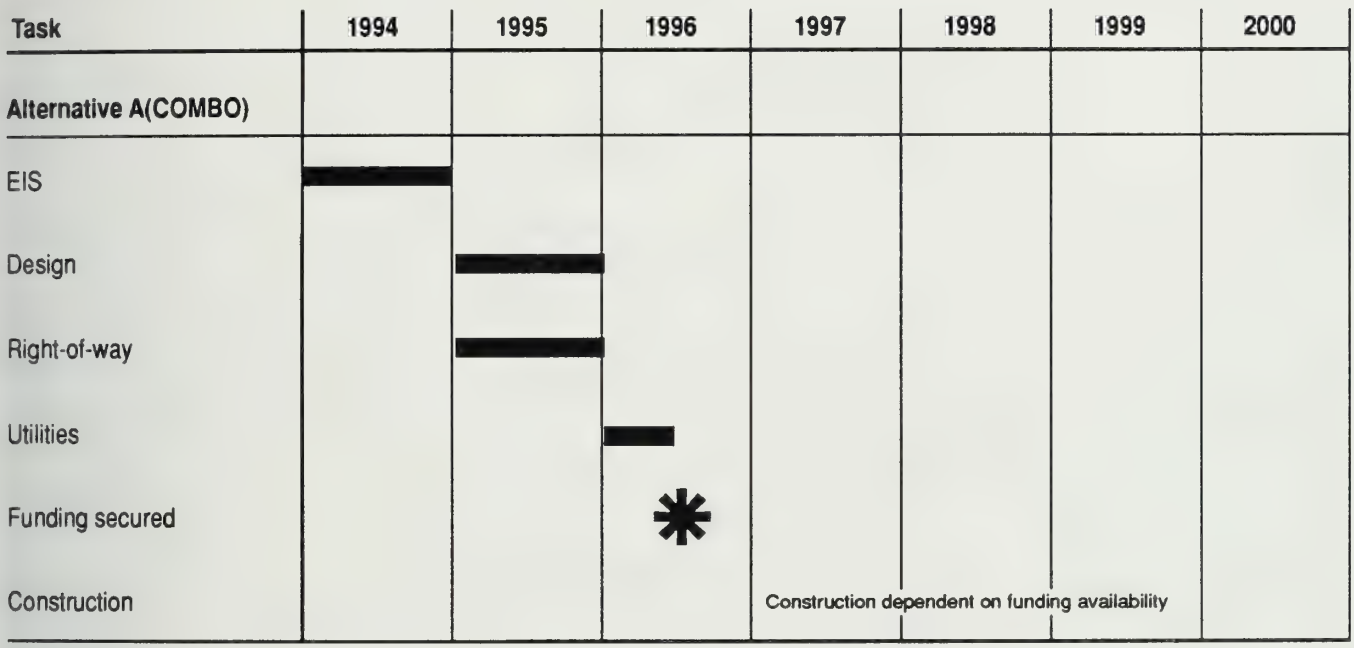
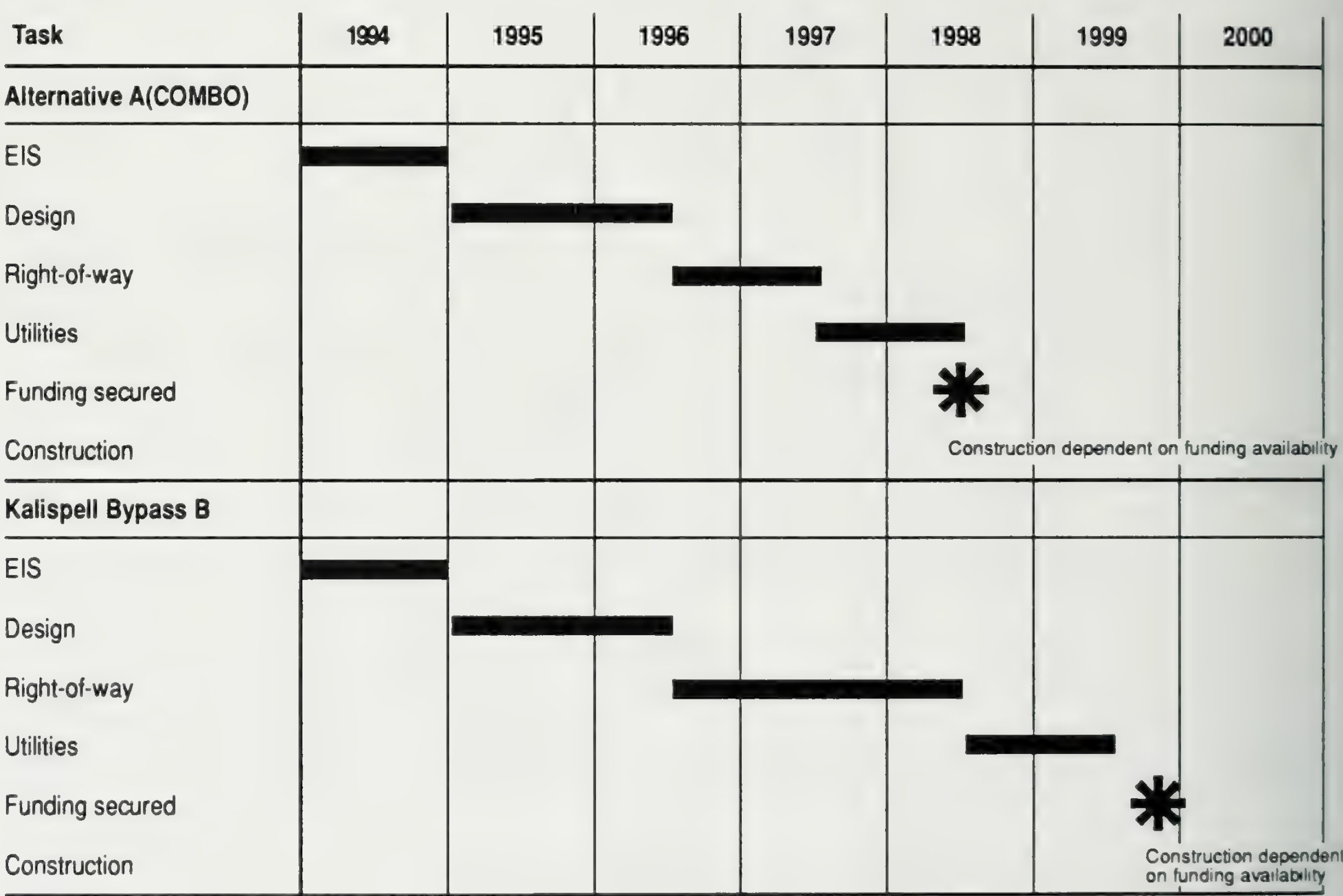


Figure 4-13a
Possible Implementation Schedule

SEGMENT: Ball's Crossing to the Courthouse (and around Kalispell)



Notes:

1. There will be considerable ROW required for all alternatives.
2. The bypass is likely to be built as staged construction, with only two lanes built at first. Right-of-way will likely be acquired for all four lanes, however.

SEGMENT: Reserve Dr. to MT 40

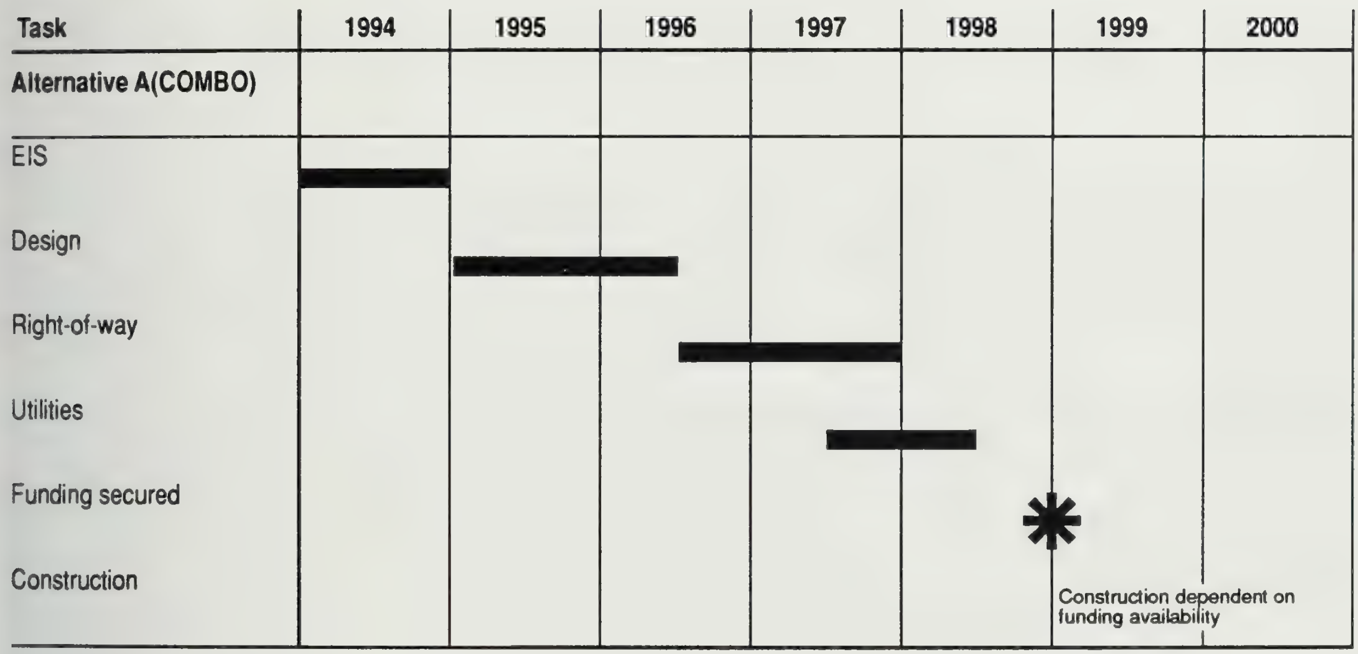
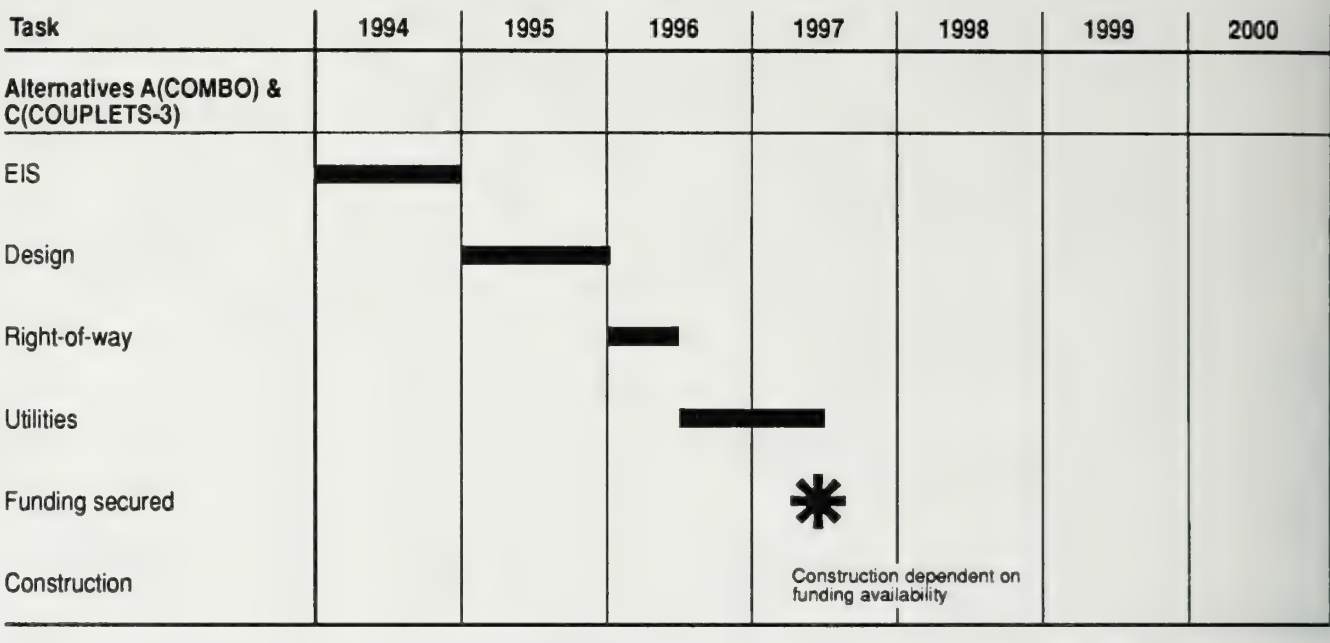


Figure 4-13c
Possible Implementation Schedule

SEGMENT: MT 40 to South River Crossing



SEGMENT: South River Crossing to West of Whitefish

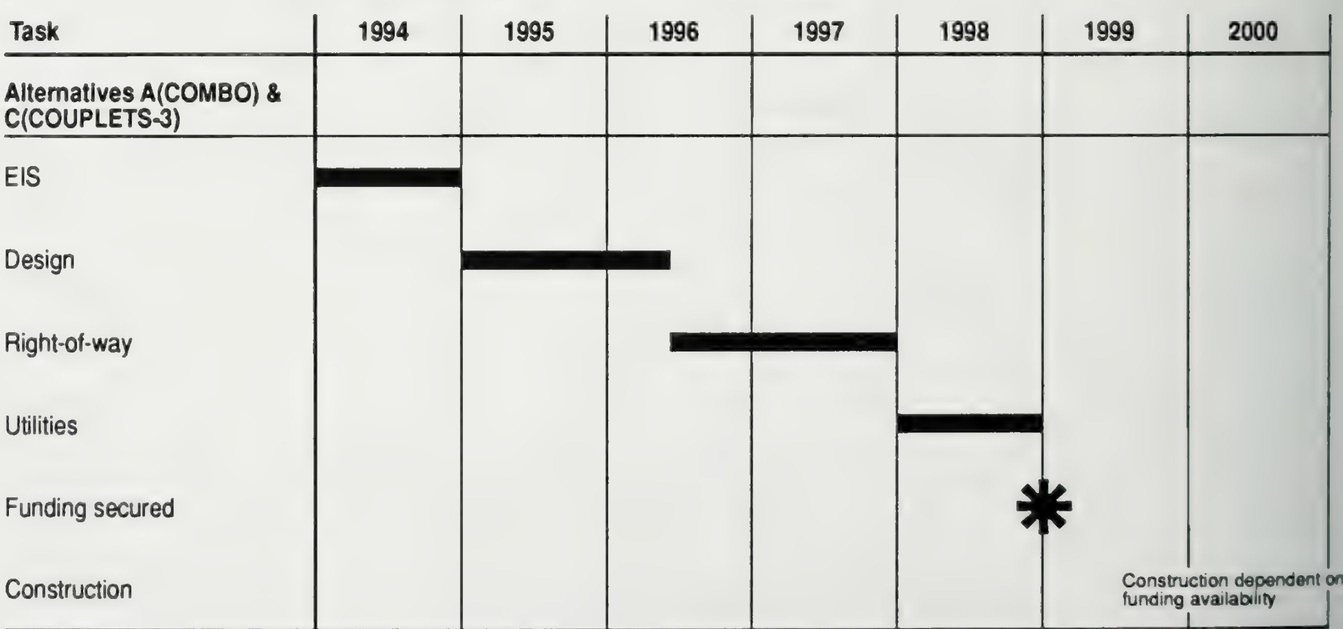


Figure 4-13d

Possible Implementation Schedule

Typically, the more costly a project, the more likely it is that the difficulty of securing funding will result in more construction phases. Since Alternatives A(MEDIAN) and A(COMBO) are projected to be approximately 13 to 15 percent more costly than Alternative A(TURN-LANE), it is more likely that the availability of funding may result in more phases of construction. These alternatives will require a greater reallocation of funds from other projects in Montana to US 93.

Utility relocation is also a time consuming process. Alternative A(MEDIAN) and A(COMBO) have more utility relocations required, so will be anticipated to require more time for this activity.

4.20.3 Socioeconomic Construction Impacts

4.20.3.1 Economic Impacts

A firm date for initiating construction of US 93 improvements has not been established. For purposes of analyzing the short-term social and economic impacts of construction of highway improvements, it is assumed that road building activities will begin in the spring of 1996 and be completed in 2001. The project is likely to be built in segments, with each segment taking approximately two years to complete. Construction impacts are assumed to occur during an eight-month construction season, from April through November. The actual length of construction seasons will vary from year to year depending on weather.

It is assumed that employment of construction workers and contractor purchases of materials, supplies and services will occur evenly over the construction period. Actual employment levels and purchasing patterns will vary due to contractor scheduling preferences and weather conditions.

Construction of US 93 improvements will lower unemployment and reduce the incidence of poverty among Flathead County residents. Flathead County residents will be expected to fill most construction jobs and nearly all local jobs created through indirect and secondary economic effects, the county unemployment will be reduced by up to 0.5 percent (for up to six years). Because construction activities will be seasonal, project employment will provide little relief from the winter time peak in Flathead County unemployment.

4.20.3.2 Impacts on Employment and Earnings

Construction of improvements to US 93 will have positive short-term impacts on the Flathead County economy. Roadway construction will create jobs and income for local construction workers. In addition, local expenditures by highway contractors and construction workers will cause indirect and secondary economic effects in the local economy, creating additional jobs and income for Flathead County residents.

About 85 percent of jobs created directly by project construction jobs are predicted to be filled by local residents (Washington Corporation, 1993). In comparison to most Montana counties, Flathead County has a large and versatile labor force. In addition, Flathead County is classified as a "Labor Surplus Area" (an area with chronically high unemployment) by the Montana Department of Labor and Industry, and local residents will be available to fill construction jobs, and nearly all the employment opportunities created by local purchases by contractors and construction workers.

An estimated 80 to 85 percent of the construction work force will be skilled laborers. Skilled worker will mainly be equipment operators, truck drivers, cement finishers, carpenters, and ironworkers. Unskilled workers will be

10 to 15 percent of the workers. Unskilled workers will mainly be manual laborers. Local residents will fill the majority of skilled jobs, and nearly all of the unskilled jobs. About five percent of the workforce will be management personnel, most of these people likely to be from outside of Flathead County (Washington Corporation, 1993) (Gilman Excavating Co., 1992).

An estimated 70 percent of contractor purchases will be made from local businesses (Washington Corporation, 1993). Local purchases will increase sales by Flathead County businesses and create additional jobs and earnings for county residents.

Expenditures by Flathead County construction workers will be similar to expenditures by other county residents. Purchases by non-local workers will mainly be for food and beverages, gasoline and convenience store goods, and lodging. Nearly all local jobs and earnings induced by construction worker expenditures will accrue to Flathead County residents.

Project construction will also create jobs and income elsewhere in Montana. Greatest impacts will occur in the home communities of the project's major contractor (or contractors), construction workers, and material suppliers.

Table 4-34
Estimated Earnings and Employment Impacts of Construction Alternatives*

	A (MEDIAN)	A (TURN-LANE)	A (COMBO)	B (MEDIAN)	B (TURN-LANE)	A(FOUR-LANE)	C (OFF-SET)	C (COUP-LET-1)	C (COUP-LET-2)	C (COUP-LET-3)	C (COUP-LET-4)
Part A: Total Earnings and Employment for Life of Construction											
Flathead County Residents											
Total Earnings (millions $)	$23.6	$21.4	$23.2	$6.5	$7.1	$0.7	$0.9	$0.8	$0.9	$1.0	$0.9
Construction Worker Earnings	11.5	10.4	11.3	3.2	3.5	0.3	0.4	0.4	0.4	0.5	0.4
Indirect & Secondary Earnings	12.1	10.9	11.9	3.4	3.7	0.4	0.5	0.4	0.5	0.5	0.5
Total Employment	1,465	1,323	1,435	406	443	47	56	50	55	60	56
Construction Employment	597	539	585	165	181	20	23	20	22	25	23
Indirect & Secondary Employment	868	784	850	240	262	27	33	30	33	35	33
State of Montana Residents											
Total Earnings (millions $)	$30.1	$27.2	$29.4	$8.3	$9.1	$0.9	$1.1	$1.0	$1.2	$1.2	$1.1
Construction Worker Earnings	14.0	12.6	13.7	3.9	4.2	0.4	0.5	0.5	0.5	0.6	0.5
Indirect & Secondary Earnings	16.1	14.5	15.7	4.5	4.9	0.5	0.6	0.6	0.6	0.7	0.6
Total Employment	1,765	1,594	1,728	489	534	58	67	61	66	73	67
Construction Employment	724	654	709	201	219	23	27	25	27	30	27
Indirect & Secondary Employment	1,040	940	1,019	288	315	35	40	36	39	43	40
Part B: Average Annual Earnings and Employment While Alternative is Being Constructed											
Number of Construction Seasons Needed to Build Alternative	6	6	6	2	2	1	1	1	1	1	1
Flathead County Residents											
Total Earnings (millions $)	$3.9	$3.6	$3.9	$1.1	$1.2	$0.1	$0.2	$0.1	$0.1	$0.2	$0.2
Construction Worker Earnings	1.9	1.7	1.9	0.5	0.6	0.1	0.1	0.1	0.1	0.1	0.1
Indirect & Secondary Earnings	2.0	1.8	2.0	0.6	0.6	0.1	0.1	0.1	0.1	0.1	0.1
Total Employment	244	221	239	68	74	7	9	8	9	10	9
Construction Employment	99	90	97	28	30	3	3	3	4	4	3
Indirect & Secondary Employment	145	131	142	40	44	4	6	5	5	6	6
State of Montana Residents											
Total Earnings (millions $)	$5.0	$4.5	$4.9	$1.4	$1.5	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2
Construction Worker Earnings	2.3	2.1	2.3	0.6	0.7	0.1	0.1	0.1	0.1	0.1	0.1
Indirect & Secondary Earnings	2.7	2.4	2.6	0.7	0.8	0.1	0.1	0.1	0.1	0.1	0.1

Table 4-34
(continued)

	A (MEDIAN)	A (TURN-LANE)	A (COMBO)	B (MEDIAN)	B (TURN-LANE)	A(FOUR-LANE)	C (OFF-SET)	C (COUP-LET-1)	C (COUP-LET-2)	C (COUP-LET-3)	C (COUP-LET-4)
Total Employment	294	266	288	81	89	9	11	10	11	12	11
Construction Employment	121	109	118	33	37	4	4	4	5	5	4
Indirect & Secondary Employment	173	157	170	48	52	5	7	6	6	7	7

**Estimates are derived from engineering estimates of project costs for labor, equipment and materials. Secondary impacts are forecasted using economic base and input-output models of the Flathead County and Montana. Employment is presented as average jobs supported during a March-November construction season.*

4.20.3.3 Population Impacts

Construction activities will cause a small short-term increase in the Flathead County population. Most non-local workers households will reside in Flathead County only during the construction season (eight months from April through November) and will return to their home communities during the winter months. During mid-summer the presence of non-local construction workers will increase the Flathead County population by less than 0.5 percent.

4.20.3.4 Impacts Inside Cities

Highway frontage inside Kalispell and Whitefish contains the bulk of the business development along the US 93 corridor. Inside the two cities, traffic flow improvements will be achieved mainly through redesigning of traffic lanes, modifying key intersections, and enhancing crosswalk areas. Unfortunately, several sections of existing US 93 through Kalispell and Whitefish are in poor condition and will require extensive reconstruction. Rebuilding of these sections will eventually be necessary even if no changes are made in US 93's design and use.

Rebuilding of US 93 through Kalispell and Whitefish will involve major construction activities. Existing road will need to be dug up and removed and considerable ground work will be needed to compensate for less than ideal soil conditions. The in-town improvements will be accomplished in several short (e.g., five to six blocks) segments. The time required to construct individual segments will be influenced by weather conditions, contractor capability and starting dates. The segments are expected to average one construction season to complete. If road building conditions are unfavorable, reconstruction of individual segments could take more than one season.

During most of the reconstruction through Kalispell and Whitefish, two-directional traffic will be maintained by keeping at least one northbound and one southbound lane operational. At certain times it will be necessary to delay traffic near constricted construction sites. Occasionally detours will be used to route traffic around troublesome construction areas. During peak construction periods, knowledgeable local drivers are likely to drive alternative city streets to avoid construction. An attempt will be made to complete construction activities creating major traffic delays at night and in early mornings. The adverse impacts of construction will be greatest for businesses fronting road segments under construction.

Some sections of US 93 through Kalispell and Whitefish have already been rebuilt. Construction along these segments will mainly consist of resurfacing existing pavement and painting new lane designs. Resurfacing involves much less elaborate construction activities than reconstructing existing traffic lanes or building entirely new lanes. Resurfacing is expected to take about four months to complete. The resurfacing of city segments of US 93 will still cause short-term interference with normal patterns of commerce within the cities.

Development of Alternative B will bring construction activities within 30.5 meters (100 feet) of 7 rural residences, plus a higher density residential development on the north side of West Reserve Drive in Kalispell. Construction activities for Alternatives C(COUPLET-2), C(COUPLET-3), and C(COUPLET-4) will be within 30.5 meters (100 feet) of an estimated 18 residences located along Baker Avenue in Whitefish. Alternative C(COUPLET-3) will bring construction within 30.5 meters (100 feet) of 8 residences.

Development of the Baker-Spokane Avenue alternatives in Whitefish will have short-term impacts on neighborhoods and commercial areas located along Baker Avenue. Construction of road improvements will expose persons living or working near the construction sites to noise and dust and inconveniences. The temporary rerouting of vehicles on to city side streets will increase trip times for travelers and expose residents of Whitefish residential streets areas to impacts from detoured traffic.

4.20.3.5 Impact Outside of Cities

Outside of cities, improvements to US 93 will involve major and lengthy construction activities. Some sections of highway may take up to two years to build. Where construction activities will block customer and employee access to businesses, alternative access will be provided. However, construction delays, noise, dust and the quality of temporary access roads may still create impediments to customer access, and may encourage customers to make purchases elsewhere in Flathead County. Detours and knowledge of potential construction delays also may cause customers use of alternative roads to avoid construction sites. Sales lost by businesses located along rural segments of US 93 are likely to accrue to businesses in Kalispell and Whitefish or elsewhere in Flathead County.

The timing of rural construction activities also will influence impacts to individual businesses. Retail and personal service-type businesses whose operations are disrupted during summers are likely to be more adversely affected than if construction major interference occurs in the spring and fall.

Business properties located on the side of the road where construction activities occur will be more obstructed than businesses abutting the functioning two lane segment. Quality of access to adjoining business properties will be determined on a case by case basis by local site conditions.

Construction activities in rural areas also will cause interference with nearby agricultural activities. Construction areas may extend into fields, temporarily displacing cropland or grazing land, and interfering with agricultural field operations and livestock grazing patterns. Inference with farming operations will be greatest for Alternatives A(MEDIAN) and A(COMBO).

Construction of Alternative B will cause interference with industrial and agricultural type land uses located along the bypass route. Impacts to agriculture will be greatest to farming operations on north side of US 2, where the highway route will bisect several fields. Road construction will interfere with lumber mill operations on the south side of US 2. Construction of the southwest segment of the bypass will affect operations of a salvage yard and livestock grazing.

4.20.3.6 Public and Private Service Impacts

The hiring of primarily local workers will serve to mitigate construction impacts on public and private services. In-migration of a small number of non-local construction workers and their families will create demand for between 10 and 20 housing units during the construction season. During the peak of the summer tourist season (late June through early September) non-local construction workers are likely to have difficulty in securing housing.

In-migration of a small number of construction worker households will not appreciably increase school enrollments or create burdensome demands on public and private utility services, or public health and safety services.

4.20.4 Other Construction Impacts

Exhaust emissions and particulate emissions (dust) will increase during project construction as a result of construction vehicle activity, lower traffic speed (start/stop driving), and earth excavation activities associated with construction.

Increased water turbidity and sediment loads will occur during bridge dismantling and construction activities, such as removal and disturbance of vegetation, construction of retaining walls, disturbance of the river bank, and placement of riprap. Effects of these impacts on benthic invertebrates and fish are expected to be short term, especially if activities near the river during critical periods of the year (e.g., during fish egg incubation and fry emergence) are minimized.

If spills of gas, oil, grease or chemicals occur during construction activities, they will pollute aquatic habitat and affect aquatic biota. The relative degree of impact will probably be greater for the more sensitive aquatic organisms and life stages.

Impacts associated with construction will occur periodically throughout the period of construction. Construction noise and dust will occur with the build alternatives. This will include any impacts associated with the hauling of materials for construction. These impacts will be localized and temporary. Detours and stopping of traffic during construction will delay and may even discourage recreational traffic from using this route.

Traffic will be most disrupted in the urban areas and in transition areas with all three design alternatives. Alternative A(MEDIAN) and A(COMBO) will have four more transition areas than Alternative A(TURN-LANE), so will likely result in more traffic disruptions in these locations. Detours will be required.

4.20.5 Maintenance

There are differences in the types of maintenance activities required for Alternative A(MEDIAN) compared to Alternative A(TURN-LANE).

Alternative A(MEDIAN) has fewer lane miles of pavement to be maintained, so there is less of a need for pavement overlays, sweeping and restriping. Alternative A(MEDIAN) requires maintenance of the center landscaped median, including grass cutting and litter removal. This median area can be used for snow storage.

Alternative A(TURN-LANE)has more lane miles of pavement, so there is more of a need for pavement overlays, sweeping and restriping. Snow plowing may be more difficult since a wide expanse of pavement needs to be cleared. Snow storage can occur temporarily in the center turn lane. Maintenance of striping is more important with this alternative because of the continuous turn lane which is restriped in shorter intervals.

4.20.6 Mitigation

The following mitigation will be implemented:

- Mitigation that will be implemented to minimize traffic disruption during construction is described in Section 4.1.9.2.

- Mitigation that will be implemented to minimize construction effects on river crossings is described in Section 4.10.2.

- MDT will develop agreements with **local jurisdictions** to maintain the landscaped median and roadside area in the urban areas.

- Low maintenance plant material will be used (in the median) for the rural areas. This will minimize the need for higher intensity maintenance.

- **A construction staging plan will be developed to minimize construction impacts to adjacent property owners. This will include specifications to address issues such as number of lanes open to traffic, traffic control, restrictions related to work hours or haul routes, pavement marking, flagging operations and area disturbed. Consideration will be given to providing incentives to contractors to minimize the construction disturbance.**

- **Construction involving discharges to streams shall not occur in spawning areas if practical alternatives exist. Construction will be timed to prevent disruptions to migration of aquatic species.**

4.21 Summary of Impacts

The following charts are a summary of impacts associated with all alternatives. This information is provided by segment.

Table 4-35
Summary of Impacts: Somers to Kalispell

Impact Category	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO) (preferred)
LOS	F	B	B	B
Traffic Operations	Increasing difficulty in overall accessibility.	Some out-of-direction travel for turning traffic.	Minimal out-of-direction travel anticipated.	Some out-of-direction travel for turning traffic.
Safety	Increasing accident rate and accident severity	Lower accident and severity rate for non-intersection related accidents; higher accident and severity rate at unsignalized intersections	Higher accident and severity rate at non-intersection related accidents; lower accident and severity rate at unsignalized intersections	Varies

Table 4-35
(continued)

Impact Category	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO) (preferred)
Parking	No effect.	No effect.	No effect.	No effect.
Land Use	Development may be more likely to occur in more agricultural areas.	Denser and more coordinated development may be encouraged.	Less dense and uneven extensions of commercial strips may be encouraged.	Varies
Prime Farmland Hectares (Acres)	0.0(0.0)	0.34 (0.83)	0.0 (0.0)	0.34 (0.83)
Social	Travel times will continue to increase.	Travel times will decrease; highway-related impacts may occur to residences within 15.25 meters (100 feet) of right-of-way.	Same as A(MEDIAN).	Same as A(MEDIAN).
Right-of-Way Hectares (Acres) Required	0.0 (0.0)	2.84 (7.01)	2.02 (5)	2.84 (7.01)
Number of House-holds Acquired	0	0	0	0
Number of Businesses Acquired	0	0	0	0
Economic	Economic conditions may deteriorate	Inconvenience of access may negatively affect some businesses.	Near-term advantage of left-turn accesses to some businesses; this may deteriorate over time.	Inconvenience of access may negatively affect some businesses.
Pedestrians and Bicyclists	Conditions will worsen.	Improved accommodations; median refuge area is an advantage.	Improved accommodations; no median refuge area is provided.	Improved accommodations; median refuge area is an advantage.
Air Quality	Increased VMT will increase PM10 emissions; increased congestion will increase CO emissions.	Increased VMT will increase PM10 emissions; decreased congestion will decrease CO emissions.	Increased VMT will increase PM10 emissions; decreased congestion will decrease CO emissions.	Increased VMT will increase PM10 emissions; decreased congestion will decrease CO emissions.
Noise	22 receptors impacted.	18 receptors impacted.	19 receptors impacted.	18 receptors impacted.
Water Resources New Impervious Surface: hectares (acres) New River Encroachment: cubic meters (cubic yards)	 0(0) 0(0)	 7.7 (19.0) 14,995 (49,000)	 9.0 (22.2) 8,967 (29,400)	 7.7 (19.0) 14,945 (49,000)
Wetlands: hectares (acres)	0(0)	0.52 (1.28)	0.32 (0.78)	0.46 (1.14)
Fisheries and Wildlife	0(0)	30.78 hectares (76 acres) of wildlife habitat converted.	17.01 hectares (42 acres) of wildlife habitat converted.	30.78 hectares (76 acres) of wildlife habitat converted.
Floodplains	0(0)	27.9 square meters (300 square feet) of floodplain encroachment.	13.02 square meters (140 square feet) of floodplain encroachment.	27.9 square meters (300 square feet) of floodplain encroachment
Threatened / Endangered Species	No impact.	No impact.	No impact.	No impact.

Table 4-35
(continued)

Impact Category	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO) (preferred)
Cultural Resources	No effect.	Adverse effect to 2 farmhouses.	Adverse effect to 2 farmhouses.	Adverse effect to 2 farmhouses.
Parks and Recreation Sites	Increased noise and visual impacts to 2 properties.	Increased noise and visual impacts to 2 properties.	Increased noise and visual impacts to 2 properties.	Increased noise and visual impacts to 2 properties.
Hazardous Materials	No impact.	Possible concerns with 8 sites.	Possible concerns with 8 sites.	Possible concerns with 8 sites.
Visual	No major change.	Grassy median will help break up large expanse of pavement; strip development is less likely to occur. Special design concepts will improve visual quality.	Noticeable increase in pavement width; likely increase in strip development will decrease visual quality. Special design concepts will improve visual quality.	Grassy median will help break up large expanse of pavement; strip development is less likely to occur. Special design concepts will improve visual quality.
Energy	No energy to construct; greater energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.
Implementation	Not applicable.	Some right-of-way required; slightly more costly; likely more time to implement.	Less right-of-way required; slightly less costly; slightly less time to implement.	Some right-of-way required; slightly more costly; likely more time to implement.

Table 4-36
Summary of Impacts: Kalispell Area

Impact Category	No-Build	Alternative A	A + B(MEDIAN) (preferred)	A + B(TURN-LANE)
LOS at Main & Idaho / US 93 & Reserve	F/F	F/D	F/C	F/C
Traffic Operations	Severe degradation of traffic operations.	Operation somewhat improved over No-Build.	Operations most improved over No-Build; some out-of-direction travel.	Operations most improved over No-Build; minimal out-of-direction travel.
Safety	Increasing accident and severity rate.	Somewhat improved safety conditions.	Decrease in accident potential.	Decrease in accident potential.
Parking	No effect.	12 blocks of parking removed in downtown.	12 blocks of parking removed in downtown.	12 blocks of parking removed in downtown.
Land Use	Business development effects will be undermined by congestion and driver difficulty in making turns.	Relatively minor improvements to US 93 will support expansions of some businesses.	Development will be accelerated along the bypass. Median will inhibit new development along mid-block areas.	Development will be accelerated along the bypass. Uneven strips of development may occur.
Prime Farmland, hectares (acres)	0(0)	0(0)	16.43 (40.61)	16.43 (40.61)
Social	Travel times will continue to increase. Traffic likely to divert to neighborhood streets.	Traffic less likely to divert to neighborhood streets.	Traffic least likely to divert to neighborhood streets. Highway-related impacts will occur to residences along bypass corridor.	Traffic least likely to divert to neighborhood streets. Highway-related impacts will occur to residences along bypass corridor.

Table 4-36 (continued)

Impact Category	No-Build	Alternative A	A+B(MEDIAN) (preferred)	A+B(TURN-LANE)
Right-of-way, hectares (acres) required	0.0	6.8 (16.79)	44.34 (109.5)	44.34 (109.5)
Number of Households Acquired	0	2 + 1 outbuilding	5 + 2 outbuildings	5 + 2 outbuildings
Number of Businesses Acquired	0	3	6	6
Economic	Worsening congestion will severely limit ability of downtown businesses to grow.	Some adverse impacts due to parking removal; improvements to crosswalk areas will help business.	Some adverse impacts due to parking removal; some sales will be diverted away from US 93.	Some adverse impacts due to parking removal; some sales will be diverted away from US 93.
Pedestrians and Bicyclists	Conditions will worsen.	Improved accommodations.	Improved accommodations.	Improved accommodations.
Air Quality	Increased congestion will increase CO emissions. 2015 PM10 emissions: 50,070 lbs/day	2015 PM10 emissions: 50,070 lbs/day; meets emissions budget in SIP.	2015 PM10 emissions: 47,370 lbs/day; meets emissions budget in SIP.	2015 PM10 emissions: 47,370 lbs/day; meets emissions budget in SIP.
Noise	36 receptors impacted.	40 receptors impacted.	66 receptors impacted.	66 receptors impacted.
Water Resources				
New impervious surface: hectares (acres)	0(0)	0(0)	47.34 (117)	47.34 (117)
New river encroachment, cubic meters (cubic yards)	0(0)	0(0)	38,500 (50,400)	38,500 (50,400)
Wetlands, hectares (acres)	0(0)	0(0)	1.71 (4.25)	1.71 (4.25)
Fisheries and Wildlife	No impact.	9.72 hectares (24 acres) of wildlife habitat converted.	35.64 hectares (88 acres) of wildlife habitat converted.	32.81 hectares (81 acres) of wildlife habitat converted.
Floodplains	0 (0)	0 (0)	35,506 square meters (381,800 square feet) of floodplain encroachment.	35,506 square meters (381,800 square feet) of floodplain encroachment.
Threatened / Endangered Species	No impact.	No impact.	No impact.	No impact.
Cultural Resources	No effect.	Adverse effect to Kalispell Courthouse District.	Adverse effect to railroad spur and Kalispell Courthouse District.	Adverse effect to railroad spur and Kalispell Courthouse District.
Park and Recreation Sites	Increased noise and visual impacts to 2 properties.	Increased noise and visual impacts to 2 properties.	Increase noise and visual impacts to 2 properties; direct impact to 1 property.	Increase noise and visual impacts to 2 properties; direct impact to 1 property.
Hazardous Materials	No impact.	No impact.	Possible concerns with 6 sites.	Possible concerns with 6 sites.
Visual	No major change.	No major change.	Roadway will be a new visual element visible to adjacent properties.	Roadway will be a new visual element visible to adjacent properties.

Table 4-36
(continued)

Impact Category	No-Build	Alternative A	A + B(MEDIAN) (preferred)	A + B(TURN-LANE)
Energy	No energy to construct; greater energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.
Implementation	Not applicable.	Construction in urban area lengthy and difficult.	Construction in urban area lengthy and difficult; substantial right-of-way required; more time to implement.	Construction in urban area lengthy and difficult; substantial right-of-way required; more time to implement.

Table 4-37
Summary of Impacts: Kalispell to Whitefish

Impact Category	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO) (preferred)
LOS	F	C	C	C
Traffic Operations	Increasing difficulty in overall accessibility.	Some out-of-direction travel for turning traffic.	Minimal out-of-direction travel anticipated.	Some out-of-direction travel for turning traffic.
Safety	Increasing accident rate and accident severity	Lower accident and severity rate for non-intersection related accidents; higher accident and severity rate at unsignalized intersections	Higher accident and severity rate at non-intersection related accidents; lower accident and severity rate at unsignalized intersections	Varies
Parking	No effect.	No effect.	No effect.	No effect.
Land Use	Development may be more likely to occur in more agricultural areas.	Denser and more coordinated development may be encouraged.	Less dense and uneven extensions of commercial strips may be encouraged.	Varies
Prime Farmland Hectares (Acres)	0.0(0.0)	8.86 (21.89)	0.0 (0.0)	7.45 (18.4)
Social	Travel times will continue to increase.	Travel times will decrease; highway-related impacts may occur to residences within 15.25 meters (100 feet) of right-of-way.	Same as A(MEDIAN).	Same as A(MEDIAN).
Right-of-Way Hectares (Acres) Required	0.0 (0.0)	19.31 (47.68)	0 (0)	19.31 (47.68)
Number of Households Acquired	0	3	0	3
Number of Businesses Acquired	0	1	1	1
Economic	Economic conditions may deteriorate	Inconvenience of access may negatively affect some businesses.	Near-term advantage of left-turn accesses to some businesses; this may deteriorate over time.	Inconvenience of access may negatively affect some businesses.

**Table 4-37
(continued)**

Impact Category	No-Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO) (preferred)
Pedestrians and Bicyclists	Conditions will worsen.	Improved accommodations; median refuge area is an advantage.	Improved accommodations; no median refuge area is provided.	Improved accommodations; median refuge area is an advantage.
Air Quality	Increased VMT will increase PM10 emissions; increased congestion will increase CO emissions.	Increased VMT will increase PM10 emissions; decreased congestion will decrease CO emissions.	Increased VMT will increase PM10 emissions; decreased congestion will decrease CO emissions.	Increased VMT will increase PM10 emissions; decreased congestion will decrease CO emissions.
Noise	54 receptors impacted.	65 receptors impacted.	66 receptors impacted.	65 receptors impacted.
Water Resources New Impervious Surface: hectares (acres) New River Encroachment cubic meters (cubic yards)	 0(0) 0(0)	 19.28 (47.63) 42 (56)	 22.15 (54.74) 42 (56)	 20.29 (50.14) 42 (56)
Wetlands: hectares (acres)	0(0)	0.20 (0.49)	0.27 (0.67)	<u>0.18 (0.46)</u>
Fisheries and Wildlife	0(0)	<u>49.42</u> hectares (<u>122</u> acres) of wildlife habitat converted.	34.83 hectares (86 acres) of wildlife habitat converted.	<u>49.42</u> hectares (<u>122</u> acres) of wildlife habitat converted.
Floodplains	0(0)	9.3 square meters (100 square feet) of encroachment.	9.3 square meters (100 square feet) of encroachment.	9.3 square meters (100 square feet) of encroachment.
Threatened / Endangered Species	No impact.	No impact.	No impact.	No impact.
Cultural Resources	No impact.	No adverse impact.	No adverse impact.	No adverse impact.
Parks and Recreation Sites	No impact.	No impact.	No impact.	No impact.
Hazardous Materials	No impact.	Potential concerns with 11 sites.	Potential concerns with 10 sites.	Potential concern with 11 sites.
Visual	No major change.	Grassy median will help break up large expanse of pavement; strip development is less likely to occur. Special design concepts will improve visual quality.	Noticeable increase in pavement width; likely increase in strip development will decrease visual quality. Special design concepts will improve visual quality.	Grassy median will help break up large expanse of pavement; strip development is less likely to occur. Special design concepts will improve visual quality.
Energy	No energy to construct; greater energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.
Implementation	No applicable.	More right-of-way required; slightly more costly; likely more time to implement.	Less right-of-way required; slightly less costly; slightly less time to implement.	More right-of-way required; slightly more costly; likely more time to implement.

Table 4-38
Summary of Impacts: Whitefish Area

Impact Category	No-Build	A(FOUR-LANE)	C(OFF-SET)	C(COUPLET-1)	C(COUPLET-2)	C(COUPLET-3) (preferred)	C(COUPLET-4)
LOS at Spokane and Second / Baker and Second	D/F	C/B	C/B	C/C	C/C	B/C	C/C
Traffic Operations	Overall decrease in circulation.	Left-turn prohibitions may be required.	Some driver unfamiliarity with unbalanced lane configuration could result.	Creates out-of-direction travel.	Reduction in out-of-direction travel; 90-degree turns difficult for trucks.	Reduction in out-of-direction travel; 90-degree turns difficult for trucks.	Limited out-of-direction travel.
Safety	Increasing problems.	Improved conditions.	Improved conditions; although potential problems with driver unfamiliarity. Potential for increased problems on Baker.	Improved conditions. Potential for increased problems on Baker.	Improved conditions. Potential for increased problems on Baker.	Improved conditions. Potential for increased problems on Baker.	Improved conditions. Potential for increased problems on Baker.
Parking (spaces lost)	No effect.	170	215	115	115	115	115
Land Use	Worsening congestion will slow business development.	Conditions slightly improved.	Commercial development will be encouraged along Baker.	Commercial development will be encouraged along Baker.	Commercial development will be encouraged along Baker.	Commercial development will be encouraged along Baker.	Commercial development will be encouraged along Baker.
Prime Farmland, hectares (acres)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)
Social	Travel times will continue to increase.	Improved travel time.	Impacts to low intensity commercial and residential uses along Baker.	Impacts to low intensity commercial and residential uses along Baker.	Impacts to low intensity commercial and residential uses along Baker.	Impacts to low intensity commercial and residential uses along Baker.	Impacts to low intensity commercial and residential uses along Baker.
Right-of-Way Hectares (acres)	0	0.3 (0.6)	0.3 (0.6)	0(0)	1.5 (3.6)	0.17 (0.4)	1.2 (2.9)
Number of Households Acquired	0	0	0	0	0	0	0
Number of Businesses Acquired	0	1	0	0	0	0	0
Economic	Worsening congestion will limit economic viability.	Some adverse impacts due to parking removal, improvements in capacity will help businesses.	Pedestrian improvements will enhance economic viability; upgrading of commercial properties on Baker is likely.	Pedestrian improvements will enhance economic viability; upgrading of commercial properties on Baker is likely.	Pedestrian improvements will enhance economic viability; upgrading of commercial properties on Baker is likely.	Pedestrian improvements will enhance economic viability; upgrading of commercial properties on Baker is likely.	Pedestrian improvements will enhance economic viability; upgrading of commercial properties on Baker is likely.
Pedestrians and Bicyclists	Conditions will worsen.	Conditions somewhat improved.	Conditions much improved.	Conditions much improved.	Conditions much improved.	Conditions much improved.	Conditions much improved.
Air Quality	2015 PM10 emissions: 22,140 lbs/day	2015 PM10 emissions: N/A	2015 PM10 emissions: N/A	2015 PM10 emissions: N/A	2015 PM10 emissions: N/A	2015 PM10 emissions: 22,870 lbs/day	2015 PM10 emissions: N/A
Noise	65 receptors impacted.	62 receptors impacted.	67 receptors impacted.	69 receptors impacted.	69 receptors impacted.	62 receptors impacted.	69 receptors impacted.
Water Resources New Impervious Surface, hectares (acres)	0(0)	0.97 (2.4)	2.65 (6.55)	0.68 (1.68)	0.98 (2.43)	0.62 (1.52)	1.12 (2.76)
New River Encroachment, cubic meters (cubic yards)	0(0)	0(0)	0(0)	14 (18)	32 (41)	32 (41)	14 (18)
Wetlands	0 (0)	0.04 (0.10)	0.04 (0.10)	0.04 (0.10)	0.04 (0.10)	0.04 (0.10)	0.04 (0.10)
Fisheries and Wildlife	0 (0)	6.48 hectares (16 acres) of wildlife habitat converted.	6.48 hectares (16 acres) of wildlife habitat converted.	6.48 hectares (16 acres) of wildlife habitat converted.	11.75 hectares (29 acres) wildlife habitat converted.	11.75 hectares (29 acres) wildlife habitat converted.	6.48 hectares (16 acres) of wildlife habitat converted.

Table 4-38
(continued)

Impact Category	No-Build	A(FOUR-LANE)	C(OFF-SET)	C(COUPLET-1)	C(COUPLET-2)	C(COUPLET-3) (preferred)	C(COUPLET-4)
Floodplains	0 (0)	4.65 square meters (50 square feet) of encroachment.	4.65 square meters (50 square feet) of encroachment.	4.65 square meters (50 square feet) of encroachment.	16.28 square meters (175 square feet) of encroachment.	16.28 square meters (175 square feet) of encroachment.	4.65 square meters (50 square feet) of encroachment.
Threatened / Endangered Species	No impact.	No impact.	No impact.	No impact.	No impact.	No impact.	No impact.
Cultural Resources	No impact.	No adverse impact.	No adverse impact.	No adverse impact.	No adverse impact.	No adverse impact.	No adverse impact.
Parks and Recreation	Increased noise and visual impacts at one park.	Increased noise and visual impacts at one park.	Some conversion of grass to pavement at one park.	Some conversion of grass to pavement at one park.	Some conversion of grass to pavement at one park.	Some conversion of grass to pavement at one park.	Some conversion of grass to pavement at one park.
Hazardous Materials	No impact.	Potential concerns with 2 sites.	Potential concerns with 2 sites.	Potential concerns with 2 sites.	Potential concerns with 2 sites.	Potential concerns with 2 sites.	Potential concerns with 2 sites.
Visual	No changes.	More lanes of traffic concentrated on US 93; special design concepts are an improvement.	Traffic split between two major streets; special design concepts an improvement.	Traffic split between two major streets; special design concepts an improvement.	Traffic split between two major streets; special design concepts an improvement.	Traffic split between two major streets; special design concepts an improvement.	Traffic split between two major streets; special design concepts an improvement.
Energy	No energy to construct; greater energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.
Implementation	Not applicable.	Construction in an urban area is time-consuming.	Construction in an urban area is time-consuming.	Construction in an urban area is time-consuming.	Construction in an urban area is time-consuming.	Construction in an urban area is time-consuming.	Construction in an urban area is time-consuming.

Table 4-39
Summary of Impacts: West of Whitefish

Note: Impacts are identical with the Alternative A alternatives except for the section between Karrow Avenue and Milepost 129.

Impact Category	No-Build	A(MEDIAN) (preferred)	A(TURN-LANE)
LOS	C	A	A
Traffic Operations	Increasing difficulty in overall accessibility.	Improved Operations	Improved Operations
Safety	Increasing accident rate and accident severity	Improved safety.	Improved safety.
Parking	No effect.	No effect.	No effect.
Land Use	Development may be more likely to occur in more agricultural areas.	Denser and more coordinated development may be encouraged.	Less dense and uneven extensions of commercial strips may be encouraged.
Prime Farmland Hectares (Acres)	No impact.	No impact.	No impact.
Social	Travel times will continue to increase.	Highway-related impacts will occur to residences adjacent to US 93.	Highway-related impacts will occur to residences adjacent to US 93.
Right-of-Way Hectares (Acres) Required	0.0 (0.0)	6.53 (16.1)	6.53 (16.1)
Number of Households Acquired	0	0	0
Number of Businesses Acquired	0	0	0

Table 4-39
(continued)

Note: Impacts are identical with the Alternative A alternatives except for the section between Karrow Avenue and Milepost 129.

Impact Category	No-Build	A(MEDIAN) (preferred)	A(TURN-LANE)
Economic	Economic conditions may deteriorate	Economic conditions generally improved.	Economic conditions generally improved.
Pedestrians and Bicyclists	Conditions will worsen.	Conditions are improved.	Conditions are improved.
Air Quality	Increased VMT and increased congestion will worsen PM10 and CO.	Increased VMT will increase PM10; decrease in congestion will decrease CO.	Increased VMT will increase PM10; decrease in congestion will decrease CO.
Noise	13 receptors impacted.	11 receptors impacted.	11 receptors impacted.
Water Resources New Impervious Surface: hectares (acres)	0 (0)	3 (7.9)	3 (7.9)
New River Encroachment: cubic meters (cubic yards)	0(0)	14 (18)	14 (18)
Wetlands hectares (acres)	0(0)	0 (0)	0 (0)
Fisheries and Wildlife	0(0)	10.94 hectares (27 acres) of wildlife habitat converted.	10.94 hectares (27 acres) of wildlife habitat converted.
Floodplains	0(0)	0 (0)	0 (0)
Threatened / Endangered Species	No impact.	No impact.	No impact.
Cultural Resources	No effect.	Adverse effect to West Second Street properties.	Adverse effect to West Second Street properties.
Parks and Recreation Sites	Increased noise and visual impacts to 3 properties.	Increased noise and visual impacts to 3 properties.	Increased noise and visual impacts to 3 properties.
Hazardous Materials	No impact.	Potential concerns with 2 sites.	Potential concerns with 2 sites.
Visual	No major change.	Grassy median will help break up large expanse of pavement; strip development is less likely to occur. Special design concepts will improve visual quality. Median area enhances gateway to Whitefish.	Noticeable increase in pavement width. Special design concepts will improve visual quality.
Energy	No energy to construct; greater energy lost to congestion.	Energy required to construct; less energy lost to congestion.	Energy required to construct; less energy lost to congestion.
Implementation	Not applicable.	More right-of-way required; slightly more costly; likely more time to implement.	Less right-of-way required; slightly less costly; slightly less time to implement.

4.22 Permits Needed

The preferred alternative will require additional federal or state actions, including the following:

- Section 404 permit from the US Army Corps of Engineers for filling in wetlands or streams **and for discharge of dredged or fill material associated with bridge and pier construction or bank stabilization work.**

- National Pollutant Discharge Elimination System stormwater discharge permit from the MDHES, Water Quality Bureau.

- Section 401 water quality certification (from **MDHES**, WQB) in support of a Section 404 permit.

- Approval of floodplain encroachments from FEMA and/or Flathead County.

- 124 Permit (as required under the Montana Stream Protection Act) from the Montana Department of Fish, Wildlife and Parks.

- 310 Permit (as required under the Montana Natural Streambed and Land Preservation Act).

- Montana Land Use License or Easement on Navigable Waterways from the Department of State Lands.

No actions or permits will be required for the No-Build Alternative.

4.23 Cumulative Impacts

Cumulative impacts are defined as impacts which "result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal undertakes such other actions."

Cumulative impacts for this project include:

- Indirect or secondary impacts, which are addressed in each section.

- Impacts associated with other projects, which are described in this section.

Known projects in this vicinity, with an assessment of probable cumulative impact, are:

- Big Mountain Expansion is a project planned by Winter Sports, Inc. to expand both the winter and summer activities and facilities available at Big Mountain Resort, located north of Whitefish. A Draft EIS was prepared in April 1993 by the US Forest Service. These expansion plans will result in increased use of US 93 to access Big Mountain. The 2015 traffic projections which are used as the basis for all analysis (such as traffic operations, air quality or noise) in this Final EIS assume the worst case or highest traffic volumes (for Alternatives C and D) used in the Draft EIS for the Big Mountain Expansion of Summer and Winter Activities, April 1993. Thus, the cumulative impacts of this action have been evaluated in the US 93 Final EIS. Improvements to US 93 model result in additional capacity and enhanced safety to better accommodate any increased traffic that will result from the expansion of Big Mountain.

- Improvements to Big Mountain Road have been planned and developed and are documented in an Environmental Assessment. These improvements will complement the US 93 improvements, but there is no direct or indirect effect on the US 93 project.

- Replacement of the Burlington Northern Overpass in Whitefish. This project **(which is under construction)** will include the construction of a new bridge and corresponding approaches to the existing roadway. The proposed project will improve the existing roadway and overpass to provide

for a 30 mph design speed. These improvements will complement the US 93 improvements, but there is no direct or indirect effect on the US 93 project.

- The Cooperative Planning Coalition is currently in the process of updating the Flathead County Master Plan. This effort will define desired future land use for Flathead County. The different location and design alternatives for US 93 will be more or less compatible with these future land use goals [Alternative A(TURN-LANE) is likely the least compatible since it may encourage strip development.] Coordination is continuing between the US 93 EIS and the Cooperative Planning Coalition study.

- A Preliminary Draft EIS has been prepared defining the impacts of various improvements to US 93 between Polson and Evaro. These improvements will increase traffic on US 93 in the Somers to Whitefish area, even though a distance of 69.19 kilometers (43 miles) separates the two projects. The Year 2015 traffic projections being used in the Final EIS for the Somers to Whitefish section are high enough to include any increased traffic resulting from the Evaro to Polson improvements.

- A Final EIS has been prepared for the reconstruction of Highway 2 between Columbia Falls and Hungry Horse, Montana. These improvements will complement the US 93 improvements, but there is no direct or indirect effect on the US 93 project.

Coordination between the US 93 (Somers to Whitefish) project and these other projects will continue.

4.24 Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Local short-term uses of the environment which will occur are:

- Some loss of soils through erosion.
- Short-term disruptions in traffic and economic conditions.
- Some increases in turbidity during construction.
- Vegetation will be lost due to construction clearing.
- Wetlands will be filled for construction.
- Some wildlife will be displaced and/or will die during construction.
- Some fish or aquatic resource habitat will be temporarily destroyed.
- Temporary changes to visual quality will occur.

Long-term productivity that will be maintained or enhanced by this action include:

- Long-term improved safety.
- Long-term improved use of energy for vehicular fuel consumption.
- Long-term enhancement in traffic capacity.
- Long-term improvements in economic conditions.
- Long-term replacement of wetland values lost.

4.25 Irreversible and Irretrievable Commitments of Resources

Implementation of any build alternative will involve a commitment of a range of natural, physical, human and fiscal resources. Land that will be used in the construction of a build alternative will be considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need for use of the land were to arise or if the highway facility were no longer needed, the land will be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor and highway construction materials such as cement, aggregate and bituminous material will be expended in the construction of a build alternative. Additionally, large amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect on continued availability of these resources. Any construction will also require a substantial expenditure of both state and federal funds which are not retrievable and will require allocation of funds which could be used by other projects.

4.26 Summary of Mitigation

The following text summarizes the mitigation commitments. These will be implemented and monitored by the MDT Environmental Section in Helena.

4.26.1 Traffic Operations and Circulation Impacts Mitigation

Possible measures include the coordination of all traffic signals in the downtown Kalispell and in Whitefish which would include upgrade of the signal hardware in several locations. In addition, as side street traffic volumes increase in the suburban and rural areas in addition to the increasing through traffic along US93, signalization will need to be considered. Section 4.1.5.2 lists possible intersections where additional signalization could be required. Prior to installation of any traffic signal, traffic signal warrants shall be met in accordance with the Manual on Uniform Traffic Control Devices. The plan should include a progression analysis along the corridor to minimize the number of traffic signals and to properly space traffic signals to provide gaps in through traffic for intermediate unsignalized intersections.

In addition, new developments along the corridor should be encouraged to develop access to the local street network. Concentrated traffic volumes on designated intersecting streets may help warrant traffic signals. Also, local street networks should be developed to offer an alternative roadway system for local traffic.

Mitigation for Alternative A(MEDIAN):

1. Access design for existing and future development should follow the Restrictive **(with flexibility)** Access Control Guideline outlined in Table 2-2.

Mitigation for A(TURN-LANE):

1. No special mitigation will be required beyond appropriate pavement markings and signage consistent with the generally unrestricted access provisions of this alternative.

Mitigation for A(COMBO):

1. Some special access designs would be necessary depending on the extent of access control as described in the access control guideline alternatives presented in Table 2-2.

Mitigation for Alternative C(COUPLET-3):

1. Appropriate intersection construction/reconstruction will be necessary to accommodate large truck turns and the increased circulating traffic on cross-streets.

2. Reconstruct the segment of Baker Avenue south of the Whitefish River to improve vertical geometry and stopping sight distance.

3. Improve driveway access to the post office, medical center and credit union and construct new access where applicable to cross-streets or parallel streets to Baker Avenue.

4. Post one-way signs along Baker Avenue and Spokane Avenue.

5. Traffic signalization of the 7th/Spokane and 7th/Baker intersections would be desirable when traffic signal warrants are met.

4.26.2 Traffic Safety Mitigation

The following mitigation **will be implemented** to improve safety:

1. Reconstruct the segment of Baker Avenue south of the Whitefish River **(but north of Seventh Street)** to improve vertical geometry and stopping sight distance.

2. Construct sidewalks/bike paths along Baker Avenue.

3. Improve intersection and driveway sight distance by prohibiting parking near intersections and tree limb and foliage removal.

4. Install speed limit signs on Baker and Spokane appropriate for design speed **and monitored driver behavior after construction** of these downtown streets and install sufficient "One-Way", "Do Not Enter" and "Wrong Way" signing for one-way street operations.

5. Enforcement of posted speed limits.

6. Use larger-size traffic signs and wider pavement marking to accommodate **the elderly**.

7. Consider the use of a permanent marking tape for a longer life of pavement marking than paint.

8. Intense re-education program of correct use of features within a roadway design including deceleration lanes, two-way left-turn lanes, etc. **This will only work for drivers who live in the area and not for visitors to the area**.

9. Advance signage for street names at major intersections along the corridor.

4.26.3 Access Mitigation

1. Guidelines for the location of direct access points on US 93 have been developed on the basis of desired traffic operation on US 93 with consideration of land ownership patterns. Where there are numerous curb cuts along one or both sides of the roadway and a limited number of vehicles use any one driveway , the continuous two way left turn lane as in Alternative A(TURN-LANE) (or portions of Alternative A(COMBO)) is appropriate.

2. Consolidation of access points will improve traffic flow along the corridor and minimize the cost of improving all intersections. In addition, consolidation can concentrate traffic to certain driveways or minor road approaches to meet appropriate signal warrants when necessary.

3. Signals can be provided to improve overall access and circulation. Potential access points which might warrant additional traffic signals **in future years** might include:

   - US 93/Columbia Avenue
   - US 93/Willow Glen/Cemetery Road
   - US 93/Airport
   - US 93/Happy Valley
   - US 93/MT 40
   - US 93/MT 82
   - US 93/18th Street**/Greenwood Drive**
   - Alternative B/US 2
   - Alternative B/Two Mile Drive
   - Alternative B/Three Mile Drive
   - Alternative B/Four Mile Drive

   Intersections that potentially could be signalized were determined by identifying the location of existing operational problems, where operational problems could exist in the future or where forced gaps are needed to create gaps in traffic to allow side street traffic to access the highway. Prior to the installation of a traffic signal, traffic signal warrants set forth by the *Manual on Uniform Traffic Control* must be met. Examples of some types of these warrants include the investigation of the volume of intersecting traffic, traffic volume on a major street is so heavy that traffic on a minor street suffers excessive delay, high pedestrian usage, inadequate gaps for school children to cross, maintain proper grouping of vehicles and effectively regulate group speed, high accident experience, and a need to encourage concentration and organization of traffic flow. Once traffic signal warrants are met, the decision whether to install or not the traffic signal needs to be investigated to determine whether any other adverse conditions are created.

4. Consider construction of supplemental business/residential access to adjacent cross-street or parallel street.

5. Provide signage to alternative access and increase size of street name signs for better visibility by circulating traffic.

4.26.4 Construction Mitigation

MDT will require the contractor for the proposed action to schedule construction operations and provide traffic control in a manner that will assure:

1. Adequate safety and convenience to motorists and pedestrians, and the safety of construction workers at all times.

2. The progress of the project is advanced in a manner most beneficial to the public.

3. Traffic control for all construction activities within 9.15 meters (30 feet) of the existing road.

4. Traffic control conforms with all MDT specifications and plans and the Manual on Uniform Traffic control Devices (MUTCD).

5. Construction signing is removed or covered when the facility is returned to normal use.

6. Work zone signing conforms with that shown on construction plans.

The contractor will be required to submit detailed traffic control plans that designate how access will be maintained to abutting land uses, keeping a minimum of one lane open in each direction of travel at all times during construction. A public information plan will also be developed that warns motorists in advance of the construction activity that construction will be occurring. This will involve the use of the various communication media including radio and newspapers to inform motorists of the location of construction, advise alternate routes and the length of delay anticipated. Where plans will also restrict certain construction activities to the off-peak hours including some night time construction where traffic volumes are substantially less than between 7am and 7pm.

4.26.5 Farmland Mitigation

Mitigation will be addressed during the design of the roadway. Mitigation measures possible to lessen these types of impacts **to farmland** are; under or overpasses, median refuges, U-turn **accommodations** or widened shoulders.

4.26.6 Relocation Mitigation

In an effort to make property acquisition as equitable as possible, standards have been developed to ensure adequate consideration and compensation for persons whose property is required for public improvement projects.

Property which is required for construction of a federal highway will be subject to the provisions of the Public Law 91-646, as amended by Public Law 100-17. Public Law 91-646 is the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended). This is a federal law. The Public Law 100-17 is

the Surface Transportation Act of 1987 which amended certain provisions of P.L. 91-646. It also is a federal law.

Provisions of the current Intermodal Surface Transportation Efficiency Act (ISTEA) H.R.2950 have included all references to the Uniform Relocation Assistance Act and Real Property Acquisition Policies Act of 1970, and these provisions require compliance with Title VI of the Civil Rights Act of 1964 (H.R.2950-34, Section 1017 Acquisition of Rights-of-Way).

It is the policy of the Montana Department of Transportation that no person will move from their dwelling until a comparable replacement dwelling has been made available to that person. A comparable replacement dwelling is safe, decent, and sanitary. The replacement housing must also be open to persons regardless of race, color, religion, or national origin.

Under most circumstances, persons residing in mobile homes will be eligible for relocation payments as will relocates who live in conventional dwellings. Relocates will be eligible to receive referrals of available replace properties, assistance in filing claims and other reasonable assistance necessary to assure successful relocation. Comparability will be based primarily on functional rather than physical similarity. Occupants of residents and businesses are entitled to receive reasonable and necessary moving costs and related expenses in relocating their personal property, provided the established procedural requirements of the Montana Department Transportation are followed.

Right-of-way needed from the Burlington Northern (BN) rail line for Alternative B(MEDIAN) and B(TURN-LANE) will need to follow a process initiated by BN through the Public Service Commission and Interstate Commerce Commission to seek approval for abandonment of the rail line. **If shippers are still being served by rail at the time right-of-way is needed, this FEIS assumes either the shippers would be purchased or their shipping rights would be compensated by MDT since this is right-of-way required to build the bypass.**

4.26.7 Pedestrian and Bicyclist Mitigation

The following mitigation will be implemented:

1. Continued coordination with Flathead County bicycle groups to determine the best location and design of bicycle facilities.

4.26.8 Air Quality Mitigation

The following **design features have been committed to in writing by MDT (see Volume II). These features, which are applicable between MT 40 and Lion Mountain Road, have been shown to reduce PM_{10} levels in Whitefish to below No-Build levels by reducing carry-on dust.**

1. Surfacing of gravel and dirt shoulders.

2. Construction of curb and gutter.

The following mitigation will be considered during construction of the US 93 project:

1. Daily street sweeping (when needed and necessary) on both ends of the project during the construction phase. This will reduce the major carry-on of dirt from the project onto the paved streets within the nonattainment boundaries.

2. If any detours are unpaved, they should be watered and/or chemically stabilized so that the emissions are less than 20 percent opacity.

3. Any slash being burned due to right-of-way clearing should be stacked with a brush blade and cured. Open burning restrictions must be followed, and a major open burning permit and fee may be required from the county.

4. Asphalt plants and gravel crushers in the immediate vicinity are also substantial contributors to the PM10 emissions from highway construction. An air quality permit must be obtained from MAQD to operate crushers and asphalt plants in Montana.

4.26.9 Noise Mitigation

Title 23 CFR 772 requires that noise abatement measures be considered if a traffic noise impact is identified. An analysis of reasonableness of providing noise abatement has been prepared for this project.

Noise barriers do not appear to be reasonable for receptors located along the existing US-93 alignment. This is because almost all of these receptors have direct access to and from the highway and the constant breaks that will be required in order to accommodate this access will severely compromise the effectiveness of a noise barrier. In addition, noise barriers in these locations will block views from residential areas.

Changes in the horizontal and/or vertical alignment of the road can be effective in reducing noise. In particular, lowering the profile of the road in residential areas can effectively reduce noise by taking advantage of natural topography to screen noise. This mitigation measure can be considered in more detail after a preferred alternative has been selected and during final design of the project.

The provision of interior noise insulation is an acceptable noise abatement measure to reduce interior noise levels in public buildings only. Since none of the sensitive receptors of concern is a public building, this will not be an appropriate mitigation measure.

No abnormal construction noise impacts are anticipated with this project. The major construction tasks are expected to be earth moving and removal, hauling, grading, and paving. If noise problems due to construction activities are identified, the most effective means to control the noise is by limiting the hours of construction activities to daytime hours (7:00 AM to 5:00 PM). Other measures to be considered are noise shields (temporary barriers) and to plan detours which do not create additional noise impacts for sensitive receptors.

4.26.10 Water Resources and Quality Mitigation

Although there are no significant impacts associated or predicted for this project, conformance to MDHES stormwater management guidelines is recommended for the implementation of any of the alternatives. Throughout the construction phase of any alternative, the use of procedures described in the MDT Highway Construction Standard Erosion Control Work Plan will be considered. Some of these acceptable mitigation measures include:

1. The use of vegetative cover and long flow distances in all waterways conveying stormwater away from roadways and into water features to optimize percolation and provide additional water quality protection.

2. Use of a design that conveys stormwater into appropriate stormwater facilities where possible in urban areas.

3. The use of appropriately designed and located silt fences (during construction) to strain excessive sediment from runoff before entering a water features.

4. The use of temporary and permanent retention ponds (during construction) to optimize settling time for sediment laden runoff before entering a water features.

5. The express use of settling ponds for the effluent of dewatering operations, if needed.

6. Minimization of vegetation disturbance and rapid revegetation of areas of disturbance.

7. Restriction of movements of construction vehicles on unpaved areas where possible.

8. **Preparation of a stormwater pollution prevention plan in the construction specifications which will be implemented by the contractor.**

4.26.11 Wetland Mitigation

The US 93 roadway has been designed to avoid if possible, then to minimize disturbance and impacts to identified wetlands. However, since some wetlands are immediately adjacent to the existing roadway or the Kalispell railroad right-of-way, complete avoidance of wetlands is not possible. MDT policy states that when avoidance is not possible, on-site mitigation will be given priority. In the event that replacement or enhancement is not possible due to construction, maintenance, safety, or other constraints, off-site mitigation will be considered.

Permits for placing fill in wetlands must be obtained from the US Army Corps of Engineers under Section 404 of the Federal Clean Water Act, amended.

The overall mitigation goal must be no net loss in wetland area or quality. The Council on Environmental Quality (CEQ) (40 CFR 1508.20) provides regulations for sequencing of mitigation, in the following order of priority:

- Avoidance of Wetlands. Avoiding the impacts altogether by not taking a certain action or parts of an action.

- Minimization of Impacts. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

- Repair, Rehabilitation, Restoration. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

- Preservation and Maintenance. Reducing or elimination the impact over time by preservation and maintenance operations during the life of the action.

- Replacement. Compensating for the impact by replacing or providing substitute resource or environments.

Additional minimization of wetland impacts as a result of implementation of one of the Build alternatives can occur through use of retaining wall or slope steeping adjacent to wetlands. This effort to minimize wetland impacts will be conducted during the final design process for this project.

Replacement wetlands (either created or restored) can only be used if there is no practical alternative to the discharge of dredged or fill material in a wetland which will have less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into Waters of the United States.

The goal of mitigation is to replace the functions and values of the unavoidably lost wetlands, in areas adjacent to or as close as possible to the area of wetland loss.

A wetland mitigation plan has been discussed with the resource agencies. It consists of the following three elements:

A. Replacement or enhancement of wetlands at two or three "on-site locations," adjacent to the area of impact. These will likely be on parcels acquired by MDT. Locations for these will be determined during the final design process.

B. Enhancement of 3.3 hectares (8.2 acres) of wetlands in the Waterfowl Production Area on the north end of Flathead Lake. As shown on Figure 4-5, activities to take place in this location include removal of logs and debris and construction of a berm with a headgate to control water flow.

C. Replacement at Lawrence Park (see Figure 4-6).

4.26.11.1 Description of Waterfowl Production Area Enhancement

The proposed wetland enhancement project would included three basic activities:

a. Remove the woody debris in the existing wetland.

b. Prevent the woody debris from being redistributed into the wetland by construction of a short earthen berm.

c. Achieve water control capability on the wetland to prevent its annual dewatering by construction of a water control structure at the wetland opening to the lake.

The berm with the water control structure would allow manipulation of water levels in the wetland while simultaneously preventing additional woody debris from being redistributed into the wetland from the lake.

Ongoing management of this wetland enhancement project will be undertaken by the Refuges And Wildlife Division of the US Fish and Wildlife Service.

<u>4.26.11.2 Description of Lawrence Park Wetland Mitigation</u>

<u>The proposed wetland mitigation area is currently vacant, with fill dirt in areas. It is an old oxbow area. It is adjacent to and within the floodplain for the Flathead River, with riparian vegetation in the vicinity.</u>

<u>Approximately 2.43 hectares (six acres) could be made available for wetland mitigation. The general plan calls for:</u>

- <u>Creation of a deep water pond with shallow, vegetated edges.</u>
- <u>Islands to serve as wildlife habitat.</u>
- <u>Interpretive signage and a boardwalk.</u>

<u>Due to the presence of visible surface water in the general area, there appears to be sufficient water available to support a new wetland; however, data from groundwater monitoring is not yet available to support this premise. The site is located adjacent to a vegetated ditch to the west, high quality wetlands to the south and the Stillwater River floodplain to the east.</u>

<u>Functions planned at this wetland are:</u>

- <u>Flood storage</u>
- <u>Wildlife habitat</u>
- <u>Food chain</u>

<u>In order to protect the value of this new wetland as wildlife habitat, the following control could be implemented:</u>

- <u>Control of human access. The planned boardwalk is well away from the eastern edge of the new wetland. Signage and enforcement will be used to prevent human access into the wetland itself.</u>
- <u>Implementation and enforcement of the city's pet control ordinance.</u>
- <u>Implementation of a buffer area to further protect the wetland area from access by humans or pets.</u>

This detailed mitigation plan will be developed in close coordination with the USCOE, EPA and USFWS. The mitigation plan will follow the USCOE *Habitat Mitigation and Monitoring Proposal Guidelines* and will be finalized prior to the issuance of the 404 permit. <u>MDT is the responsible entity for funding and implementing the mitigation plan.</u>

Success criteria for wetlands mitigation will consider the following:

a. Percent vegetative cover within the mitigation wetlands should be equal to or greater than the percent vegetative cover of the lost wetlands within a five-year period.

b. Vegetative species composition and diversity should closely approximate the composition and diversity of lost wetlands. One method for doing this could be by comparison of plant numbers and vegetative species lists at the lost wetlands and the mitigated wetlands.

Corrective action will be taken if criteria established for wetland mitigation success at the time of Section 404 permit application are not being met.

4.26.11.3 Minimization During Design and Construction

Where wetland losses are unavoidable, wetland losses will be minimized by implementing conservation measures in highway design and construction.

These conservation measures will include:

- removal of vegetation will be kept to the minimum necessary for completion of the project;
- all exposed areas will be revegetated according to MDT standards and specifications to reduce potential erosion and sedimentation, provide desirable ground cover, to inhibit the invasion of noxious weeds, and for aesthetic purposes;
- perennial stream crossing mitigation measures will be addressed in the Montana Stream Protection Act permit;
- mulching, reseeding, netting, plantings, and other bank stabilization and erosion-control measures will be considered;
- placement of siltation fences along the Flathead River crossing may be used to minimize sedimentation;
- noxious weed control, revegetation seeding, and fertilizing will be coordinated with the county weed district in accordance with MDT standard procedures; and
- flagging or fencing of wetland areas during construction to avoid unnecessary disturbance due to construction activities.

4.26.12 Fisheries and Wildlife Mitigation

Mitigation measures that will be implemented to minimize impact to fishery and wildlife resources include:

1. Proper erosion control techniques will be utilized during construction, including the use of soil retention blankets, silt fences and hay bales where needed. Areas disturbed during construction will

be revegetated. All construction equipment will be serviced away from any stream crossings preventing the accidental spill of petroleum products into waterways.

2. Bridge structures or underpasses will be sized to accommodate wildlife if possible. Crossing of major watercourses will be done in a perpendicular manner as much as possible.

3. Loss of trees will be avoided wherever possible.

4.26.13 Floodplains Mitigation

Mitigation that will be provided to minimize impact to floodplains includes:

1. Use of standard MDT erosion control techniques to minimize impact to natural and beneficial floodplain values during construction.

2. Coordination with Flathead County related to any floodplain encroachment.

4.26.14 Cultural Resources Mitigation

At 24FH350 (the railroad spur) on Alternative B, the MDT proposes to install a historic marker describing the history and significance of the Somers Branch of the Great Northern Railway. The market text will be identical to that determined suitable as part of the Somers to Kalispell segment of this project.

For the Whitefish Residential Historic District, the MDT proposes to conduct additional survey work and prepare the nomination of the district to the National Register of Historic Places. When the nomination has been completed and accepted by the NRHP, the MDT will then prepare a NRHP sign to the local historical society describing the Whitefish Residential Historic District and its significance to the history of the community.

The MDT will conduct monitoring at the Altenburg and McCormack farms to assess the visual and audible impacts to the site before, during and after construction. The results of the monitoring will be provided to SHPO and the ACHP within 18 months of the completion of construction.

If construction in the Kalispell Courthouse Historic District results in the removal of any trees, they will be replaced in kind by the Department.

Other mitigation includes:

- Continued communication with the Flathead Culture Committee regarding cultural materials of concern to the Committee.

Copies of coordination with the State Historic Preservation Office are in Volume II.

4.26.15 Parks and Recreation Mitigation

Ashley Creek Recreation Trail

This mitigation is described in Section 5.4.1.

Daley / Bert Holler Ballfields

The east access along US 93 will be eliminated entirely in conjunction with improvements of US 93. In order to mitigate the loss of this highway access the gravel drive along the eastern edge of the park and in front of the ballfields, will be extended to the south to create a new access at the southern end of the park. This will then be used as a one-way drive.

Lion's Park / Haven Field

The landscaped drainage area along the park's western edge will be maintained during and subsequent to construction of any proposed improvement to the adjacent highway. Utility poles located adjacent to the highway on the park's west edge may need to be relocated prior to construction.

Riverside Park

The bridge over the Whitefish River will be designed to accommodate a future pedestrian or bike path along the river.

Whitefish Golf Course

Landscape buffers are planned in raised medians to reduce the visual impact of the increased street width.

4.26.16 Hazardous Materials Mitigation

Detailed hazardous materials analyses, including sampling and testing of questionable soils or water will be conducted during the design of the preferred alternative.

Underground Storage Tanks (USTs) located adjacent to the highway on Sites 2, 3, 5, 28, 45, 50, and 59 will be located prior to construction so that potential contact with the fuel tanks can be avoided during construction. Before roadway construction occurs on these sites, soil located adjacent to the roadway on these sites should be analyzed to determine if existing petroleum levels are higher than those accepted by the MDHES for this type of project. If so, mitigation possibilities include excavation of contaminated soil, or landfarming (spreading contaminated soils over an evenly-distributed area and providing the area with nutrients and vegetation). For the Burlington Northern trackbed located between Somers and Snowline Road, the right-of-way purchase agreement between MDT and railroad representatives requires specific pre-construction mitigation responsibilities of both parties involved in the property transaction. Upon completion of the remedial action mandated by this purchase agreement, no subsequent mitigation will be necessary for this site.

For Site B6, excavation and /or landfarming of potentially-contaminated soils are possible mitigation measures and will be implemented (if necessary) in concert with roadway construction. For the railroad track along Alternative B, removal of all track materials and surrounding surface soils **is recommended** before it is converted to new public right-of-way.

4.26.17 Visual Mitigation

A number of different mitigation techniques are planned to minimize the visual impact of the proposed project. These include:

1. Final design will be done in such a manner as to best fit the new highway within the existing topography. This includes contour grading of cut and fill slopes, sensitive design of roadway alignment and profile and design of roadside signage and lighting. Streetscape treatments within Kalispell and Whitefish will also add to the overall character of the corridor and strengthen the visual character of these communities.

2. Landscape enhancements will utilize only native materials (including trees, shrubs, grasses and wildflowers) that are appropriate for a particular site or area. **Care will be taken to avoid installation of species that are palatable to wildlife in areas immediately adjacent to the roadway**. Therefore, the objective of revegetation is to properly restore disturbed areas to appropriate native habitats and natural communities.

3. Slope cutting will be done in such a manner as to be compatible with the adjacent slope. This includes such techniques as:

   - Laying the slope back at draws.

   - Modifying slope ratios to reflect existing terrain characteristics.

   - Rounding at the top and bottom to present a softer transition.

4. Design and construction of roadside and median landscape treatments will not produce the desired affect if the maintenance of those features falls short of what is required. MDT **will** seek assistance from local communities in the maintenance of landscaping and streetscape features. This is especially important at the Kalispell and Whitefish gateway areas. Maintenance includes providing water for plant materials, pruning, mowing, weeding plant beds, and seasonal upkeep.

5. Open road segments in rural areas can be maintained through conventional roadside methods with seasonal mowing and trash pickup. Local groups can also be enlisted to maintain roadsides through the state programs.

6. **Special light fixtures will be used in sensitive areas to minimize stray light pollution.**

4.26.18 Energy Mitigation

Procedures available to reduce energy consumption during construction include:

1. Maximum use of on-site material to reduce haulage of materials.

2. Design for repetitive dimensions to permit re-use of forms.

3. Adequate construction vehicle maintenance

4. Adequate construction phasing and detour plan.

5. Turning off equipment when not in use.

6. Design of construction access roads and staging areas to limit distances traveled.

4.26.19 Implementation Mitigation

The following mitigation will be implemented:

- Mitigation that will be implemented to minimize traffic disruption during construction is described in Section 4.1.9.2.

- Mitigation that will be implemented to minimize construction effects on river crossings is described in Section 4.10.2.

- MDT will develop agreements with local jurisdictions to maintain the landscaped median and roadside area in the urban areas.

- Low maintenance plant material will be used (in the median) for the rural areas. This will minimize the need for higher intensity maintenance.

- A construction staging plan will be developed to minimize construction impacts to adjacent property owners. This will include specifications to address issues such as number of lanes open to traffic, traffic control, restrictions related to work hours or haul routes, pavement marking, flagging operations and area disturbed. Consideration will be given to providing incentives to contractors to minimize the construction disturbance.

- Construction involving discharges to streams shall not occur in spawning areas if practical alternatives exist. Construction will be timed to prevent disruptions to migration of aquatic species.

4.26.20 Section 4(f) Mitigation

4.26.20.1 Ashley Creek Recreation Trail

Numerous discussions have been held with Flathead County Parks representatives and Rails-to-Trails of Northwest Montana representatives. Agreement has been reached to provide the following mitigation:

- Purchase property for approximately 625 meters (2,050 feet) of relocated trail.

- Build approximately 625 meters (2,050 feet) of new trail generally south of Ashley Creek, just south of US 2.

- Provide for an at-grade signalized intersection across Alternative B at US 2.

- Provide for a grade-separated bikepath crossing adjacent to and on the south side of Ashley Creek under Alternative B. Usage by equestrians will be provided for if possible.

- Connect the Ashley Creek trail with the new bike lane along Alternative B.

- Provide approximately 2.11 hectares (5.22 acres) of property to Flathead County Parks. This is planned for at least partial use as parking and a trailhead facility, to compensate for the approximately 0.10 hectare (0.25 acre) of Section 6(f) land converted from a recreation use. If the appraised value of the replacement land is less than the appraised value of the impacted property, additional property (to make up the difference) will be provided to Flathead County Parks as 6(f) replacement property.

Chapter Five

Final Section 4(f) Analysis

Chapter 5.0 Final Section 4(f) Analysis

Title 49 USC 303 (also 23 USC 138) states that **"The Secretary may approve a transportation program or project (other than any project for a park road or parkway under Section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park area, refuge, or site) only if –**

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

This chapter describes Section 4(f) resources in the study area, direct and constructive uses that will occur to these resources, alternatives that were considered to avoid using land from these resources and the actions taken to minimize harm to these resources.

The following discussion refers only to those particular properties, inside the study area, that may incur direct conversion of use or constructive conversion of use as a result of the implementation of one or any of the alternatives. The first portion of this section provides a short description of the parks and historic properties adjacent to the alternative alignments, followed by a description of direct or constructive use conversions to these properties. Section 5.3 discusses Avoidance Alternatives, Section 5.4 provides measures to minimize harm, **and Sections 5.5 and 5.6 discuss coordination and the final Section 4(f) conclusion**.

5.1 Section 4(f) Properties

5.1.1 Parks and Recreation Areas

Properties Adjacent to Alternatives

There are a total of nine publicly owned, recreationally used, Section 4(f) properties located adjacent to one or more of the alternatives. Table 5-1 lists these properties and indicates whether or not a direct conversion of use will occur.

Table 5-1
Park and Recreation Properties

Section 4(f) Property	Direct Conversion of Use
Daley / Bert Holler Fields	No
Lion's Park / Haven Field	No
Ashley Creek Recreation Trail	Yes
Depot Park	No
Buffalo Hill Golf Course	No
Riverside Park	No
Whitefish Lake Golf Club	No
Whitefish Tennis Courts / Soccer Fields	No
Skyles Lake Access	No

Careful analysis of right-of-way ownership concluded that only the Ashley Creek Recreation Trail property was subject to direct conversion of use of a Section 4(f) property. This is because the existing MDT right-of-way adjacent to the other eight properties is sufficiently wide such that the proposed improvements will fit within this right-of-way. These other eight adjacent properties will incur minor indirect impacts related to access and visual criteria but are located completely outside of the existing transportation right-of-way. There will be no purchase or direct conversion of use for these properties. For a detailed discussion relating to the impacts on parks and recreation properties refer to Chapter 4 of this document.

Ashley Creek Recreation Trail / Rails to Trails

The Ashley Creek Recreation Trail is located approximately 0.40 kilometer (0.25 mile) west of South Meridian Road along the former Great Northern Railway Track bed (see Figure 5-1). The developed 4.05-hectare (10-acre) portion of the site is a level, gravel path, approximately 30.5 meters (100 feet) wide, extending west from the neighboring commercial distributor along the historic track bed for approximately 1.61 kilometer (one mile). The trail is owned and managed by the Flathead County Parks and Recreation. Current facilities include signage at both of the two access points. Future plans for the site include extending the developed recreation corridor from its existing eastern extent along the tracks to Meridian Road. These development plans will include trail improvements and additional signage. They are scheduled to take place in 1994 under the direction of Rails to Trails of Northwest Montana with funding from the Intermodal Surface Transportation Efficiency Act (ISTEA). Existing available activities include pedestrian and bicycle use and cross-country skiing. The area has one access from US 2 on the east developed by agreement along a shared private drive, and another direct access to US 2 at the west end of the trail.

An unusual feature of this trail is that the entire site from US 2 on the west to Meridian Road on the east, was purchased through the Federal Land and Water Conservation Fund, so it is protected by Section 6(f) of the Land and Water Conservation Fund Act (LWCF).

The Flathead County Parks and Recreation also owns an additional 30.5 meters (100 feet) of right-of-way along the remaining portion of track extending to the east to Meridian Road. Burlington Northern Railroad still operates on this section of track, and will continue to do so along the planned extension of the recreation trail east to Meridian Road.

5.1.2 Historic Properties

The following is a list and description of historic properties that are eligible for inclusion on the National Register of Historic Places (NRHP) **and have impacts that would substantially impair the historic integrity of the site or district**.

1. Kalispell-Somers Railroad Spur (24FH350)

   Figure 5-2 shows US 93 in relationship to the Kalispell-Somers Railroad Spur (spur). The spur is parallel to the highway for 6.49 kilometers (four miles) from the south terminus to the point where US 93 crosses the spur. The site is 14.48 kilometers (nine miles) long and has a track bed of about 6.1 meters (20 feet) in width. The spur then continues to the northwest while the highway swings to the north. The portion of the

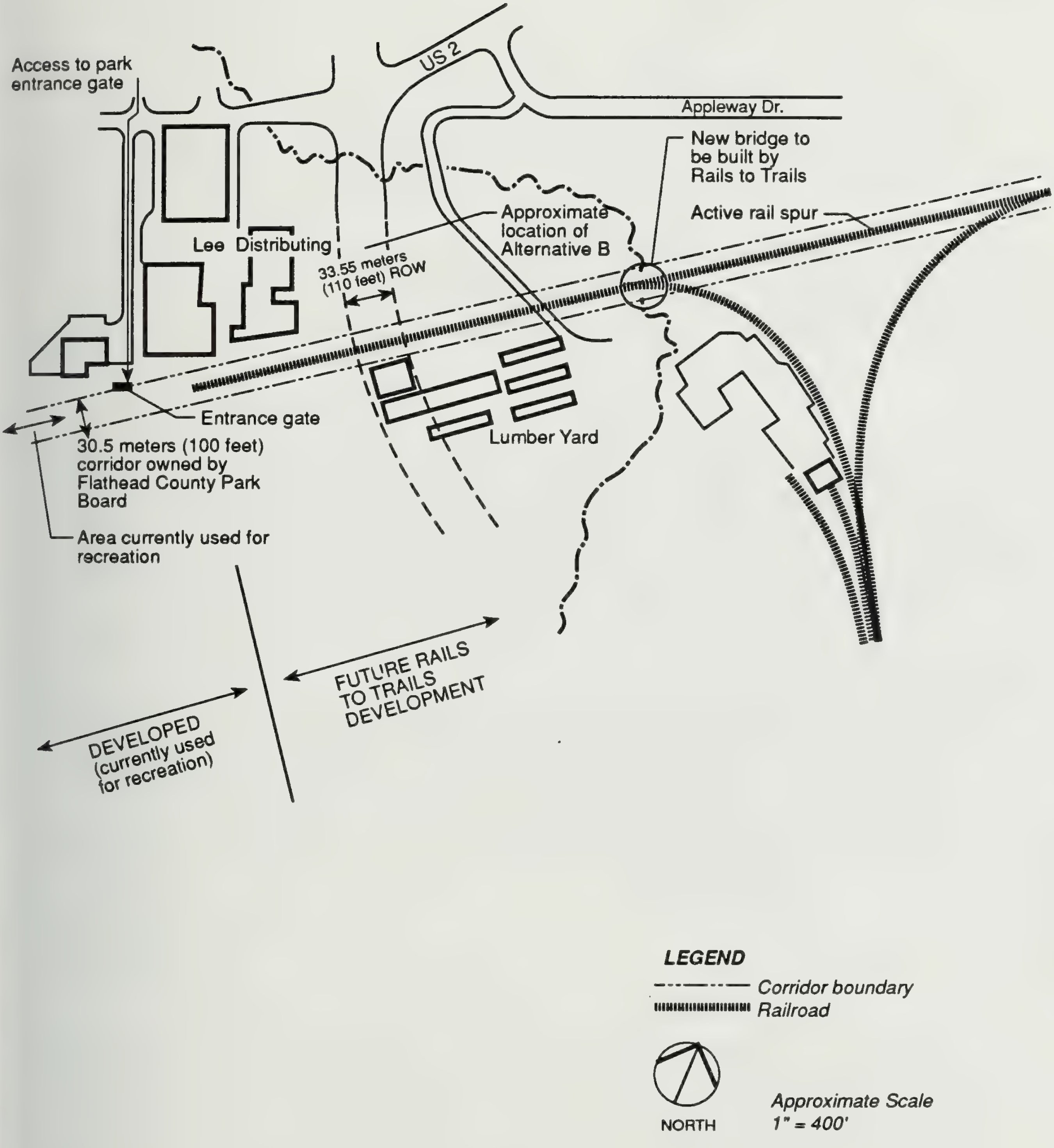
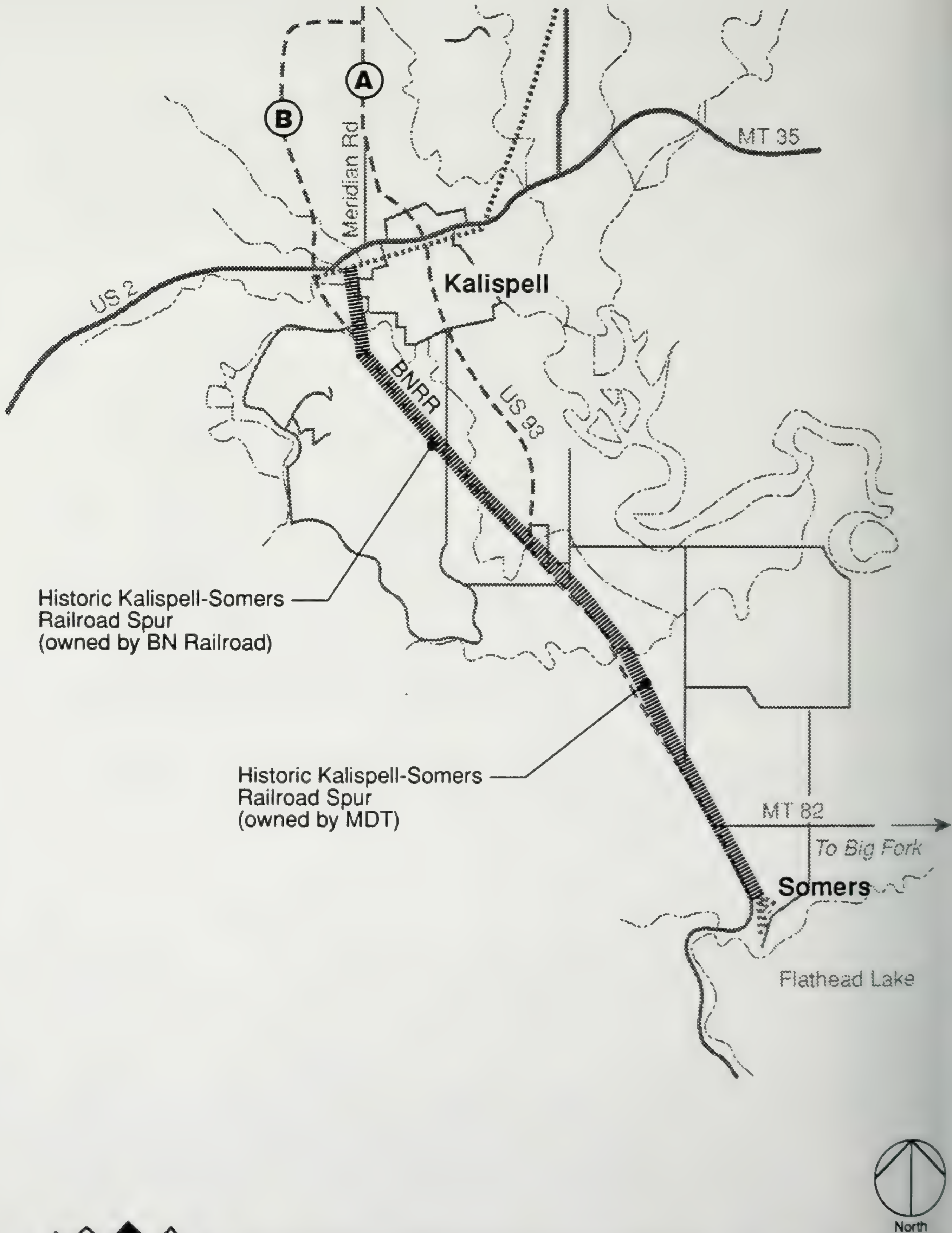


Figure 5-1
Ashley Creek Recreation Trail



Somers to Whitefish
Environmental Impact Statement

Figure 5-2
Kalispell-Somers Railroad Spur

spur northwest of the crossing makes up the right-of-way for Alternative B. Total involvement of the spur line with US 93 and Alternative B is 11 kilometers (6.83 miles). MDT owns the spur south of the point where it crosses US 93. Burlington Northern Railroad owns the spur from that point to the northwest. The track is generally at ground level or slightly above with ballast built-up to provide a level grade. South of Ball's Crossing, the tracks have been removed by Burlington Northern. There are no unusual characteristics that reduce or enhance value of property.

The Montana State Historic Preservation Office (SHPO) has determined that the site is eligible for the NRHP because of its importance to the history of transportation in the upper Flathead Valley, the Somers Mill and the town of Somers. It qualifies for its association with an agreement between John O'Brien and James J. Hill. It qualifies as an example of a technology because it was an integral part of the planning and construction of the Somers Mill.

2. Kalispell Courthouse Historic District

The Courthouse Historic District (see Figure 5-3) includes five blocks of a residential and commercial neighborhood in Kalispell, Montana. The district contains 26 extant buildings and one site, Courthouse Park. The focal point of the district is the Flathead County courthouse, jail, and park, located in the center of Main Street on the south end of the district. The courthouse and jail were completed in 1903, but the blocks to the north fronting Main Street were not developed until the late 1920 and 1930s. Contributing buildings in the district include the courthouse complex, two large churches, a parsonage, a funeral home, a medical clinic, an apartment building, and a number of residences.

The district is eligible for listing in the National Register of Historic Places under Criterion A and B for its reflection of the patterns of development of the community and for the architectural significance of some of the buildings. Unlike the rest of Kalispell, most of the district was developed as an early community improvement project organized by the City of Kalispell in the late 1920s. The district also reflects Kalispell's role as the county seat, the development of funerary practices in the region, and the influence of architect Fred Brinkman on the physical appearance of Kalispell. The courthouse and jail are Kalispell's only Chateauesque-style buildings.

5. West Second Street Properties

Illustrated on Figure 5-4 are the location of significant properties on West Second Street.

West 2nd Street was developed primarily in the 1920s and early 1930s with a small amount of residential infill in the late 1930s and early 1940s. West 2nd Street has seen relatively little commercialism other than an Exxon Station (originally a Circle K) and a historic grocery (now the Hair Connection at 144 West 2nd). At the west end of the road segment examined for this project is the Whitefish Country Club (24FH573). Relatively intact historic residential development flank West 2nd Street primarily on the south but with some development on the north. As a result the highway route cuts through the middle of the western section of the Whitefish Historic Residential District.

Because most of the dwellings are within the larger Whitefish Historic Residential District (WHRD), they have been evaluated in terms of their contribution to the District. The Hennessy Log Bungalow (24FH569), Harlow House (24FH570) and Midby Bungalow (24FH571) are located

Somers to Whitefish
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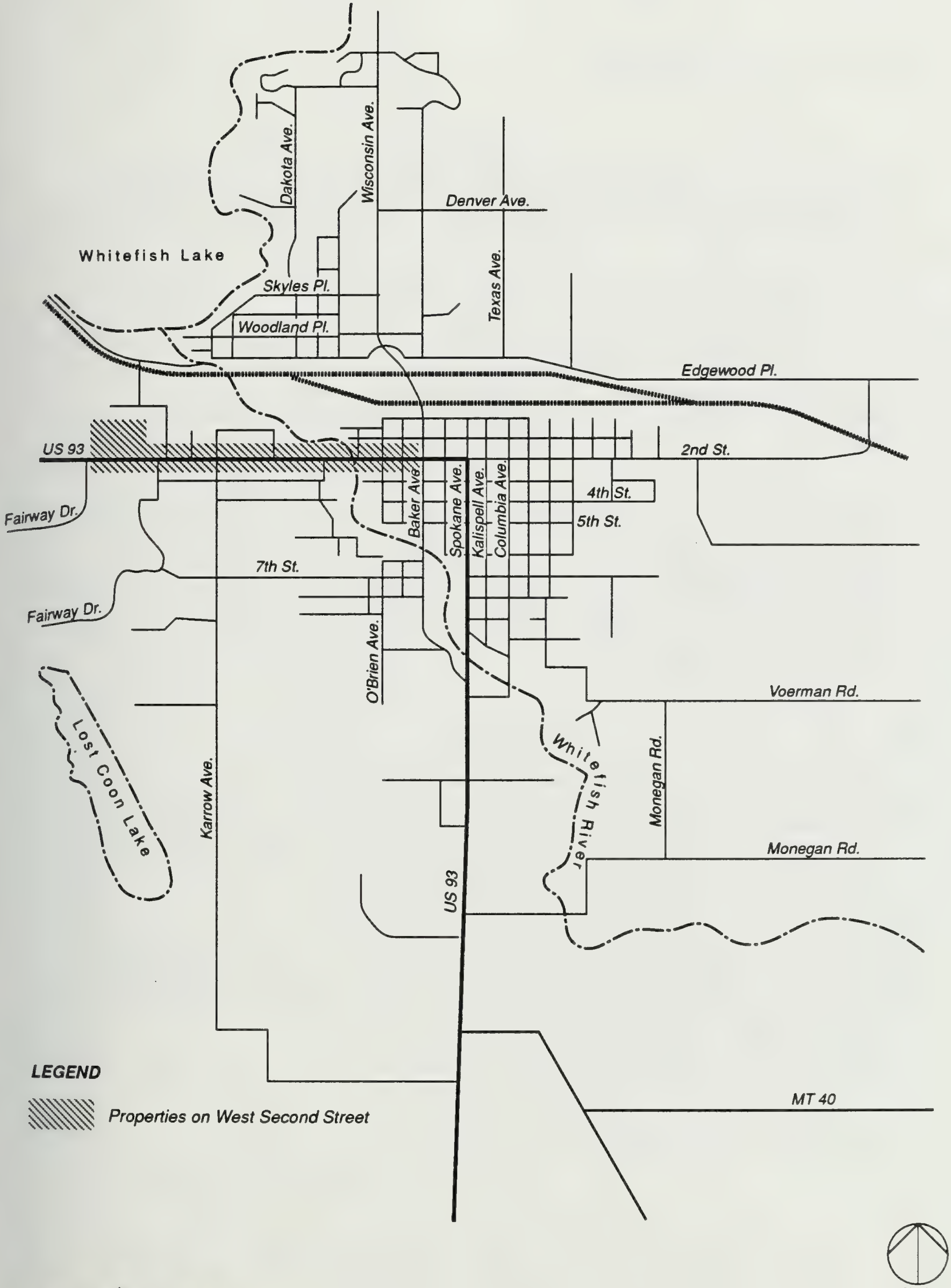
Figure 5-3
Kalispell Courthouse Historic District



Somers to Whitefish Environmental Impact Statement

Figure 5-4

Properties on West Second Street

within the WRHD, but have significance beyond that of the Historic District and so were also evaluated in terms of the general NRHP criteria. The Northern Silver Fox Farm at 205 Parkhill Avenue and the Whitefish Country Club were not related to the residential development, were beyond the boundaries of the WHRD and so were evaluated individually in terms of the NRHP.

The dwellings on West 2nd Street between the Whitefish River Bridge and the 700 block were developed as housing for the expanded operations of the Great Northern Railroad (GNRR) and nearly all have had railroad workers as occupants at one time or another. The commercial development in this area has been limited to one historic combination dwelling/grocery and one convenience store. Few non-historic dwellings were observed in the historic neighborhood. On the west end of the historic neighborhood, the Northern Silver Fox Farm (24FH572) at 205 Parkhill Avenue is an example of the fur farm industry of the 1930s, unfortunately, little remains of the historic fur farm. West of the Fox Farm, West 2nd Street has seen modern development of suburbs and commercial buildings that have strong connections with the Country Club.

Because the study corridor is in a densely populated suburban neighborhood with a well documented development, subsurface excavation would be inappropriate and would reveal little if any significant historical information (Criterion D). Sites along the West 2nd Street segment were evaluated in regard to NRHP Criteria A, B and C. This area includes 27 properties recommended to be contributing to the Whitefish Historic Residential District, three properties recommended to be eligible to the NRHP and one property recommended to be eligible to the NRHP and also contributing to the District.

5.2 Uses of Section 4 (f) Properties

Direct conversion of use on a Section 4(f) property results from the purchase, lease, easement or agreement to change the use of all or a portion of the property. Direct conversion of use is one way a Section 4(f) may be changed. The other is through constructive use. A constructive use would result from any action that would "substantially impair" a current and protected use related to a 4(f) property. This can occur from noise impacts, visual impacts, major access restrictions, vibration impacts or ecological intrusion. A constructive use does not occur when these impacts are minor or are mitigated.

Specific analysis of noise, visual, access, vibration and ecological impacts has been made to determine if this action will substantially impact the use of the Section 4(f) properties. It has been determined that this will not occur and thus, there are no constructive uses of Section 4(f) properties as a result of implementation of this project.

Chapter 5 is limited to a discussion of direct or constructive use conversions. For a more complete explanation and description of other impacts refer to Chapter 4 of this document.

A summary of Section 4(f) impacts is included in Table 5-2.

Table 5-2
Summary of Section 4(f) Impacts

Name of Property	Type of Use	Alternatives Involved	Mitigation Proposed
Ashley Creek Recreation Trail	Direct (conversion of trail to roadway)	B in Kalispell	Reconstruction of a portion of the trail under the new roadway.
Kalispell-Somers Railroad Spur	Direct (conversion of right-of-way)	A(COMBO) (preferred; A(MEDIAN), A(TURN-LANE)	Placement of an interpretive historic marker.
Kalispell Courthouse Historic District	Direct (removal of trees)	All build	Replacement of trees.
West Second Street Properties	Constructive (addition of sidewalks; no conversion of right-of-way)	All build	Preparation of nomination of District to National Register; preparation of sign for District.

5.2.1 Uses of Ashley Creek Recreation Trail / Rails to Trails

The No-Build Alternative will have no impact on this section of public property.

The centerline of Alternative B(MEDIAN) and B(TURN-LANE) crosses approximately 213.5 meters (700 feet) east of the portion of the property currently used for recreation. Although Alternatives B(MEDIAN) and B(TURN-LANE) actually bisect the property east of the developed portion, the entire length from US 2 on the west and Meridian Road on the east is owned by Flathead County Parks and Recreation and was purchased with LWCF assistance. Additionally this area is slated for future improvements. Even though the railroad corridor is currently used by freight rail traffic to service Lee Distributing, this location is classified as primarily recreational in use because it is connecting two points on an existing recreation trail network. Both Alternative B(MEDIAN) and B(TURN-LANE) will convert 0.1 hectare (0.25 acres) of Ashley Creek Trail to transportation uses.

Any purchase of right-of-way or other acquisition related to this property will have to be approved by the US Department of the Interior, since **Land and Water Conservation Funds were used to purchase a portion of this property**.

5.2.2 Impacts to Historic Properties

5.2.2.1 Kalispell-Somers Railroad Spur (24FH350)

This spur will be directly impacted by the US 93 project. The spur north of where it crosses US 93 will be purchased and used as the right of way for Alternative B(MEDIAN) or B(TURN LANE). In addition, Alternatives A(MEDIAN), A(TURN-LANE) and A(COMBO) use the spur from the crossing point south to

MT 82. The spur will be used for approximately 11.87 kilometers (7.38 miles) of its length from MT 82 to just south of Foy's Lake Rd.

5.2.2.2 Kalispell Courthouse Historic District

Between Ninth and Twelfth Streets, improvements to Main Street would occur within the limits of the existing pavement. Parking will be eliminated to provide for four 3.66-meter (12-foot) lanes. Trees will remain along the street and should not be affected by the replacement of curb and gutter or sidewalk. The new sidewalk will be placed at a higher grade to protect tree roots. Three trees will have to be removed to widen at the beginning of the couplet around the courthouse. The widening will take place on the side of the street away from the Courthouse.

5.2.2.3 West Second Street

West Second Street consists of 30 NRHP-eligible residences and one eligible golf course clubhouse located along US Highway 93 west of the Whitefish River bridge. Proposed construction activities would include widening the existing two-lane, 14-meter (46-foot) wide paved roadway to a 18.3-meter (60-foot) roadway consisting of three 3.66-meter (12-foot) lanes, two 14.27-meter (14-foot) "clear" areas and two 1.53-meter (five-foot) sidewalks. All construction, however, would be confined to the existing right-of-way. No trees would be removed. Although the existing buildings would remain intact and their historic significance perpetuated, the addition of sidewalks where none currently exist would constitute an Adverse Effect to the setting of the historic neighborhood.

5.3 Avoidance Alternatives

Alternatives that will avoid the use of Section 4(f) properties have been identified and evaluated to satisfy Part 23 CFR 771.135 (i).

5.3.1 Location Alternatives Considered

The location of Alternatives B(MEDIAN) and B(TURN-LANE) was established in part by the use of an existing abandoned railroad right-of-way. The use of this corridor will have present and future impacts relating to the completion or extension of the Ashley Creek Recreation Trail toward Kalispell and the Kalispell-Somers Railroad Spur historic sites. Offsetting these park and historic site impacts is the capacity for this alignment, along the railroad right-of-way, to leave undisturbed all other public and private properties along this passage.

Shifts of alignment west to avoid the Ashley Creek Recreation Trail, or the Kalispell-Somers Railroad Spur would create:

- Greater private property involvement: six or more residential or agricultural displacements would be required.

- Greater wetland involvement: crossing Ashley Creek farther west would destroy more and higher quality wetlands. Alternatives B(MEDIAN) and B(TURN-LANE) cross Ashley Creek at an industrial site where the creek has been previously disturbed and has lesser wetland value.

- Possible direct and indirect impact to the Lone Pine State Preserve (a Section 4(f) property).

- Greater impact to the portion of the Ashley Creek Recreation Trail property that is more actively used currently for recreation.

- Greater direct impact to McDonnell Place, an eligible property.

Shifts in alignment to the east to avoid the Ashley Creek Recreation Trail or the Kalispell-Somers Railroad Spur would create:

- Considerable increases in the impact of Ashley Creek itself and its associated wetlands as the creek runs north / south and the alignment would thus be adjacent to or over the creek for prolonged distances. A likely increase in impact from 2.43 hectares (six acres) of previously disturbed wetland with Alternative B(MEDIAN) and B(TURN-LANE) to 4.25 hectares (10.5 acres) of higher grade undisturbed wetland with a shift to the east.

- **Greater impact to existing residential areas.**

Other locational avoidance alternatives which were considered to avoid the Ashley Creek Recreation Trail and the Kalispell-Somers Railroad Spur are discussed in greater detail in the discussion of Kalispell bypass alternatives. For specific description and maps of these alternatives refer to Section 2.3.2 of this document. Summarizing Section 2.3.2, these bypass alternatives were considered but dropped for the following reasons:

- Kalispell Bypass Alternative A - This alternative was not considered reasonable, since not enough traffic would use this bypass to relieve traffic on US 93.

- Kalispell Bypass Modified B and F - This alternative would pass through Ashley Creek Trail in the same location as B(MEDIAN) and B(TURN-LANE)

- Kalispell Bypass Alternative C1 and C2 - This alternative was not considered because it had substantial socioeconomic, wetland, floodplain and Section 4 (f) impacts.

- Kalispell Bypass Alternative D - This alternative was not considered feasible because it did not meet the purpose and need and would have great environmental impacts on wetlands, floodplain and endangered species.

The use of the existing US 93 corridor (Alternative A) through Kalispell, without implementation of Alternatives B(MEDIAN) or B(TURN-LANE), would avoid use of two of the Section 4(f) properties. This alternative was fully evaluated in **the DEIS. It is not considered a feasible or prudent alternative to the use of the Section 4(f) properties because it would result in the following:**

- **Substantial increases in congestion through the central area of Kalispell.**

- **Increases in PM_{10} and carbon monoxide pollution.**

- **Substantial disruption to residential and commercial areas (including the Kalispell Historic District and Courthouse Historic District) as a result of diversion of traffic from US 93.**

- <u>**Likely increases in noise and decreases in property value on residential streets which would receive diverted traffic.**</u>

- <u>**Noticeable economic impact to Kalispell commercial area as a result of decreased accessibility.**</u>

- <u>**Substantial increases in congestion on east-west streets that would need to cross US 93.**</u>

5.3.2 Consideration of a Reduced Facility

A reduced facility is one means by which the impact on Section 4(f) properties could be lessened. A reduced facility requires that the cross sectional width of some or each or the cross sectional elements will be reduced. In the case of Alternative B, a reduced facility will only provide a small reduction of direct impact to the Kalispell-Somers Railroad Spur. Although the physical area of encroachment will be slightly less, the future use of the Ashley Creek Recreation Trail will still be bisected. No matter how narrow the cross-section, trail users will continue to be restricted or prevented from crossing the roadway, causing a direct impact requiring mitigation. <u>**A reduced facility could reduce the removal of trees south of the courthouse or eliminate the addition of sidewalks along West Second Street**</u>.

Design standards for this road with its projected traffic volumes are not met by a reduced facility. A reduced facility will not provide the level of service acceptable for this corridor and will thus not meet purpose and need. <u>**In addition, critical safety improvements would not be met if the trees south of the courthouse were removed or if sidewalks were not added to the residential area west of Whitefish.**</u> In addition, a reduced facility at the Alternative B location would not provide sufficient capacity to adequately relieve congestion and related air quality issues in Kalispell.

5.3.3 Other Alternatives Considered

The No-Build Alternative would avoid any use of the Section 4(f) properties. Although it is fully evaluated in this document, it does not meet the purpose and need as defined in Chapter One.

Alternative designs relating to above ground (bridging over) or under ground (tunneling under) facilities would be prohibitively expensive.

<u>**Chapter Two of this document also documents other alternatives considered.**</u>

5.4 Measures to Minimize Harm

5.4.1 Ashley Creek Recreation Trail

<u>**Numerous discussions have been held with Flathead County Parks representatives and Rails-to-Trails of Northwest Montana representatives. Agreement has been reached to provide the following mitigation:**</u>

- Purchase property for approximately 625 meters (2,050 feet) of relocated trail.

- Build approximately 625 meters (2,050 feet) of new trail generally south of Ashley Creek, just south of US 2.

- Provide for an at-grade signalized intersection across Alternative B at US 2.

- Provide for a grade-separated bikepath crossing adjacent to and on the south side of Ashley Creek under Alternative B. Usage by equestrians will be provided for if possible.

- Connect the Ashley Creek trail with the new bike lane along Alternative B.

- Provide approximately 2.11 hectares (5.22 acres) of property to Flathead County Parks. This is planned for at least partial use as parking and a trailhead facility, to compensate for the approximately 0.10 hectare (0.25 acre) of Section 6(f) land converted from a recreation use. If the appraised value of the replacement land is less than the appraised value of the impacted property, additional property (to make up the difference) will be provided to Flathead County Parks as 6(f) replacement property.

5.4.2 Historic Properties

At 24FH350 (the railroad spur) on Alternative B, the MDT proposes to install a historic marker describing the history and significance of the Kalispell-Somers Railroad spur. The market text will be identical to that determined suitable as part of the Somers to Kalispell segment of this project.

For the Whitefish Residential Historic District, the MDT proposes to conduct additional survey work and prepare the nomination of the district to the National Register of Historic Places. When the nomination has been completed and accepted by the NRHP, the MDT will then prepare a NRHP sign to the local historical society describing the Whitefish Residential Historic District and its significance to the history of the community.

If construction in the Kalispell Courthouse Historic District results in the removal of any trees, they will be replaced in kind by the Department.

5.5 Coordination Process

Coordination on park and recreation areas that has occurred with the agencies having jurisdiction over the Section 4(f) properties is documented in Volume II. It includes:

- Consultation on primary data gathering with Flathead County Parks and Recreation included correspondence relaying locational and operational information. An aerial photo (1" = 200') of the Ashley Creek Trail site with the approximate location of Alternative B(MEDIAN) and B(TURN-LANE) was sent to the Director of Flathead County Parks and Recreation for review on November 8, 1993. At that same time a request was made to return the photo with any pertinent locational data marked and identified; a plat map of the property and a copy of the quitclaim deed. All of the above were returned and used in the preparation of this document.

- Additional coordination with the Director of Flathead County Parks and Recreation has involved several telephone conversations (11-2-93, 11-30-93, 12-28-93) regarding current and primary use of each portion of the park, significance, developed facilities and additional information about future development.

- Additional data was provided by phone and pamphlet from City of Whitefish Parks and Recreation and City of Kalispell Parks and Recreation.

- A meeting was held on March 23, 1994 with Flathead County Parks to discuss mitigation possibilities.

- Written correspondence was provided to Flathead County Parks on April 5, 1994 which presented two options for mitigation for Ashley Creek.

- Two meetings were held on April 12, 1994 to discuss mitigation for Ashley Creek with Rails-to-Trails representatives.

- A presentation was made on April 14, 1994 to the Flathead County Parks Board.

- Written correspondence was received on April 25, 1994 from Rails-to-Trails of Northwest Montana agreeing with the mitigation as described in Section 5.4.1.

- Written correspondence was received on May 12, 1994 from Flathead County Parks and Recreation agreeing with the mitigation as described in Section 5.4.1.

- Written correspondence was received on June 6, 1994 from the Montana Department of Fish, Wildlife and Parks, indicating compliance with Section 6(f) of the Land and Water Conservation Fund.

Coordination on historic properties:

- SHPO concurrence with the Determination of Eligibility was received on June 22, 1994.

- SHPO concurrence with the Determination of Effect was received on July 15, 1994.

- SHPO and Advisory Council on Historic Preservation concurrence with mitigation was agreed to in the MOA which was signed on September 1, 1994.

5.6 Conclusion

Based upon the above considerations, there is no feasible and prudent alternative to the use of the land from the Section 4(f) properties and the proposed action includes all possible planning to minimize harm to the Section 4(f) properties resulting from such use.

Chapter 6.0

Comments and Coordination

Chapter Six

Comments and Coordination

Chapter 6.0: Comments and Coordination

6.1 Mission and Objectives

A critical element in the Somers to Whitefish EIS process is an extensive public and agency involvement program.

The overall mission of the public involvement program is to create openness, trust and participation such that participants in the program are able to work together to identify and deal with controversial issues, contradictions, opportunities and obstacles. The process has been open, participatory and responsive.

The specific objectives of the public involvement program are to:

- Establish and maintain the credibility of the EIS process and of the EIS team.
- Identify and try to actively include all people, groups and agencies that may be affected by the project.
- Provide timely opportunities throughout the process for all interests to express their views, ideas and concerns.
- Ensure that the information to be communicated is understandable, clear and concise.
- Provide a mechanism for public feedback so that questions are answered and concerns acknowledged.
- Make it evident to the public that their opinions, values and ideas have been incorporated into the development of design alternatives.

6.2 Elements of the Public Involvement Program

6.2.1 Notice of Intent

This was published in the Federal Register on January 27, 1993.

6.2.2 Mailing List Development

A mailing list of over 2,000 individuals and groups has been compiled. This is used for the distribution of newsletters.

6.2.3 Advisory Committee

The purpose of the Advisory Committee is to provide advice to the EIS team. The broad-based committee (of 16 members) has provided direction at the following key points in the process:

- First Advisory Committee Meeting (held on April 15, 1993): Introduce team, review public involvement plan, obtain scoping input, describe scoping meetings.
- Second (Informal) Advisory Committee Meeting (held on May 11, 1993): Provide input to design concepts.
- Third Advisory Committee Meeting (held on May 26, 1993): Discuss input received from scoping process, confirm and verify project goals, review initial concepts.
- Fourth Advisory Committee Meeting (held on July 20, 1993): Review analysis of concepts, focusing on the parallel corridor concepts.
- Fifth Advisory Committee meeting (held on September 15, 1993): Review design concepts for US 93; review environmental analysis findings.
- Sixth Advisory Committee Meeting (held on October 20, 1993): Review access control, safety and cost issues.
- Seventh **and later** Advisory Committee Meetings: Recommend a locally preferred alternative **(see Section 6.5 for information about meetings subsequent to the publication of the Draft EIS)**.

6.2.4 General Public Workshops

The purpose of the general public workshops is to provide information to the general public and to obtain their input. Public workshops (in three locations) have been or will be held at the following key points in the process:

- First Public Workshops (held April 20, 21 and 22, 1993): Introduce team, describe process, obtain scoping input.
- Second Public Workshops (held June 8, 9 and 10, 1993): Discuss and obtain input to project goals and objectives and initial concepts; respond to issues.
- Third Public Workshops (held September 28, 29 and 30, 1993): Discuss and obtain input to refined set of alternatives and preliminary environmental analysis; respond to issues.
- Whitefish Workshop (held November 9, 1993): Discuss Whitefish issues.
- Public Hearings (**held March 22, 23 and 24, 1994**): Receive comments on DEIS, discuss selection of preferred alternative.

Over 500 people have participated in these public workshops.

Figure 6-1 includes photographs from these workshops.

Project Office

Public Workshop

Workshop Graphics

Public Workshop

Figure 6-1

Public Involvement Program

6.2.5 Small Group/Key Individual Meetings

These meetings have been held with groups or key individuals. Over 200 contacts with groups or individuals were made. A partial list of groups who were either contacted by telephone or with whom a meeting was held were:

- Citizens for a Better Flathead - Transportation Committee.
- Rails to Trails of NW Montana.
- Flathead Business and Industry Association.
- Whitefish Chamber Transportation Committee.
- Flathead Safety Council.
- Nature Conservancy.
- Kalispell Development Corporation.
- Flathead Economic Development Corporation representative.
- Flathead County Safety Council representative.
- Glacier Park International Airport representative.
- Kalispell Chamber Transportation Committee.
- Flathead Land Trust.
- Somers Community Association representative.
- Cooperative Planning Coalition.
- Scenic America.
- Whitefish Community Development Corporation.
- Flathead Valley Bicycle Club.
- US 93 Property Owners.

Meeting minutes or contact forms are on file in the Carter & Burgess offices or at the office of the Federal Highway Administration.

6.2.6 Interdisciplinary (ID) Team Meetings

ID Team meetings (of key resource agencies) are being held at key points in the process. The purpose of the ID Team is to provide technical direction to the Carter & Burgess team regarding such issues as wetlands,

wildlife and historic or archaeological properties. ID Team members are Montana Department of Transportation, Soil Conservation Service, US Army Corps of Engineers, US Fish and Wildlife Service, US Environmental Protection Agency, Montana Department of Fish, Wildlife and Parks, Flathead Basin Commission, Montana Department of Health and Environmental Science (Air Quality Bureau) State Historic Preservation Office and Flathead County.

- Verify jurisdictional requirements (meeting held April 22, 1993) -- make sure needs of agencies are being met.
- Obtain scoping input (meeting held April 22, 1993).
- Discuss alternatives and affected environment (meeting held June 9, 1993).
- Discuss preliminary environmental analysis results (meeting held September 30, 1993).
- Discuss mitigation plans (**meeting** held March 24, 1994).

6.2.7 Land Use Subcommittee

Two land use subcommittees (one each for the Kalispell area and the Whitefish area) were formed to provide technical input to the land use and zoning implications of the various alternatives. The subcommittees met three times (in May, June and September).

6.2.8 Newsletters

A project newsletter has been developed and will be used to provide project information to a larger audience than those who may attend public workshops. The following newsletters have been sent out to a mailing list of over 2,000 people:

- #1: Announce project, announce project office and hot line, announce scoping meetings.
- #2: Announce second general public workshops, provide summary of scoping, provide project goals and objectives, discuss initial concepts.
- #3: Announce third general public workshops, discuss refined alternatives and initial analysis of alternatives.
- #4: Announce upcoming Whitefish meeting.
- #5: Present refinements to reasonable alternatives, provide preliminary environmental analysis.
- #6: Announce Public Hearing.
- #7: Present **preliminary recommendation for** preferred alternative.
- **#8: Present preferred alternative as adopted by the Highway Commission.**

6.2.9 Project Office

A project office was opened in Whitefish (at the Mountain Mall) for a period of six months. This was staffed by the project team during key public involvement time periods to provide an opportunity for the public to discuss issues one-on-one with project personnel and review information about the project. Approximately two to three people per week visited this office.

6.2.10 Election Day Survey

A Flathead County citizen's survey for US 93 transportation issues was conducted at county polling places on June 8, 1993. Over 5,400 surveys were completed. They reflect opinions obtained from Flathead County voters and are not necessarily representative of the overall population of Flathead County.

Some of the notable findings of the survey were:

- Nearly all of the responding voters traveled on US 93 on a daily basis.
- 85 percent reported driving alone for their out-of-home work and school trips.
- 93 percent reported these trips to be 30 minutes or less. (This is important because persons with work trips of over 30 minutes are the most likely to participate in ridesharing programs).
- 40 percent indicated their trip to work as ten minutes or less. (These are distances suitable for walking or bicycling).
- 34 percent indicated driving on other roads to avoid US 93 on a daily basis.
- 73 percent indicated that there are serious problems with traffic conditions on US 93.
- 51 percent supported adding traffic signals; 53 percent supported developing better bicycle facilities.
- The most promising alternative transportation modes are: bicycling, walking and carpooling or vanpooling with each over 20 percent of respondents indicating they would choose this mode over cars three to five days per week. Only seven percent would ride a bus instead of using their car three to five days per week.

6.2.11 Radio Talk Shows/Press Releases

Radio talk shows/press releases/press meetings were conducted periodically.

6.2.12 Project Hot Line

A project hot line (406/862-1388) has been established for the public to receive information about the project.

6.2.13 Project Displays/Open Houses

Displays of project information and periodic open houses with project personnel have also been held in areas along the corridor other than Whitefish, the location of the project office. Project displays were set up at the Somers Volunteer Fire Hall and the Gateway Mall in Kalispell. A total of six open houses were held.

6.2.14 Letters

Written communication in the form of letters or comment sheets were received throughout the project. As of **September 1**, 1994, a total of approximately **350** letters have been received.

The majority of these letters were written to express a preference for one design alternative over another or to express opposition to one or more of the Whitefish bypass alternatives. A few of the letters requested consideration of issues such as wildlife protection, farmland protection, visual impact or safety. **A few of the letters also requested specific design or right-of-way information for a particular parcel.**

These are on file with FHWA or in the Carter & Burgess offices.

6.3 Agency Contacts

The following agencies were formally contacted by letter to obtain specific information and to identify any issues which should be addressed in the EIS:

- US Fish and Wildlife Service
- US Environmental Protection Agency
- US Army Corps of Engineers
- US Soil Conservation Service
- Flathead County
- City of Whitefish
- City of Kalispell
- Montana Department of Transportation

In addition, meetings and/or telephone conversations were held with the following agencies:

- Federal Agency Contacts
  - US Forest Service (Forest Service issues)
  - Federal Transit Administration (transit issues)
  - US Army Corps of Engineers (wetlands, stream filling)
  - US Fish and Wildlife Service (threatened or endangered plants or animals, wetlands)
  - US Soil Conservation Service (prime or unique farmlands)
  - US Environmental Protection Agency (air quality, wetlands, hazardous materials)

- Advisory Council on Historic Preservation (historic properties)
- National Park Service (GNP issues)

- State Agency Contacts

  - Montana Department of Transportation (transportation and environmental issues)
  - Montana Department of Health and Environmental Science, Air Quality Bureau (air quality impacts)
  - Montana Department of Health and Environmental Science, Water Quality Bureau (stormwater runoff, groundwater discharge)
  - Montana State Historic Preservation Office (effects to historic or archaeological properties)
  - Montana Department of Fish, Wildlife and Parks (wetlands, natural resources)

- Regional/Local Agency Contacts

  - Flathead County (planning, road and bridge, parks)
  - City of Whitefish
  - City of Kalispell
  - Flathead Basin Commission
  - Somers Water and Sewer District
  - Flathead Regional Development Office

6.4 Input Obtained

A great variety of input has been obtained from the public and agency involvement program activities.

Generally, almost all participants in the program agree that there is a need for improving US 93 from Somers to Whitefish. The current highway is perceived as being dangerous, with inadequate capacity, not supportive of modal interrelationships and not accommodating of future population and employment growth needs.

There is a wide variety of opinion about concepts which should be considered for providing for the transportation need in the corridor. Concepts which were suggested are listed here in no priority order:

- Adding passing and turning lanes only.
- Adding frontage roads.
- Improving other corridors instead of US 93.
- Bypassing Kalispell.
- Bypassing Whitefish.
- Proceeding with the original five-lane design.
- Widening with a median for access control.
- Improving bus service.
- Adding pedestrian and bicycle facilities.

Concerns were expressed during the public and agency involvement program about every impact category that is addressed by the FHWA Technical Advisory T6640.8A. Issues that were communicated most frequently by the public were:

- Impact to future land use.
- Impacts on future safety.

- Accommodations for pedestrians and bicyclists.
- Minimizing right-of-way.
- Minimizing economic impacts.
- Maintaining wildlife in the area.
- Enhancing visual quality.
- Minimizing construction impacts.

Key technical issues that were communicated by the agencies were:

- Need to demonstrate that the (preferred) alternative is the least damaging to Section 404 protected resources (wetlands, rivers).

- Need to minimize air quality impacts to the Kalispell and Whitefish non-attainment areas (for PM_{10}).

- Need to minimize impact to historic resources.

6.5 Coordination Subsequent to Release of Draft EIS

An extensive amount of public and agency coordination has occurred subsequent to release of the Draft EIS. This section summarizes the type of coordination which has occurred. The next section (Section 6.6) summarizes comments and provides responses to these comments. Volume II contains copies of letters and records of telephone calls.

6.5.1 Federal Register Announcements

An announcement was placed in the Federal Register on February 25, 1994, which announced the availability of the Draft EIS and indicated the end of the comment period as May 2, 1994. A second announcement was placed in the Federal Register on May 6, 1994 which extended the public comment period to May 16, 1994. Copies of these announcements are in Volume II of this Final EIS.

6.5.2 Public Notices

Public notices were placed in the newspapers of general circulation in the study area. These notices indicated where the DEIS was available for public review, the three public hearing dates and times, and other opportunities for commenting. Dates of the public notices were:

- Daily Interlake: Sunday, March 16, 1994.
- Whitefish Pilot: Thursday, March 3, 1994

6.5.3 Public Hearings

Three public hearings were held in the study area on March 22, 23 and 24, 1994. Approximately 180 people attended the three hearings. Transcripts of these hearings are included in Volume II.

Each hearing was held from 6:00 p.m. to approximately 9:00 p.m. The first hour was an open-house type format with stations showing graphics of the various alternatives and illustrations of impacts of the alternatives. A handout was also available for attendees. A presentation of approximately one-half hour in length occurred from 7:00 p.m. to 7:30 p.m. The presentation generally described the alternatives, the major findings of the DEIS and the process. Public hearing attendees had six methods of comment on the project at the hearing:

1. By asking a question subsequent to the formal presentation.

2. By talking to one of the consultant, agency or Advisory Committee members at the hearing.

3. By writing their comments on one of the comment cards.

4. By writing their comments on one of the comment sheets and then placing them in the "Comment" box.

5. By dictating their comments to the registered reporter at the hearing.

6. By submitting written comments or calling the "hotline" number subsequent to the hearing.

6.5.4 Advisory Committee Meetings

The Somers to Whitefish West Advisory Committee met five times subsequent to publication of the Draft EIS. These meetings were:

- March 16, 1994, to discuss the public hearing and Advisory Committee issues and concerns about the DEIS.

- March 26, 1994, to tour the study area.

- April 12, 1994, to discuss input received to-date and any areas of agreement.

- April 23, 1994, to discuss preliminary recommendations.

- May 17, 1994, to finalize preliminary recommendations.

6.5.5 Meetings with Groups or Individuals

Approximately 120 meetings were held with groups or individuals. Most of these were with individual property owners along US 93 or with groups of US 93 property owners.

6.5.6 Agency Meetings

The following agency meetings or telephone conference calls were held:

- March 24, 1994: ID Team meeting.
- April 12, 1994: Meeting with Rails-to-Trails Board
- April 14, 1994: Meeting with Flathead County Parks Board
- May 11, 1994: Meeting with wetland agencies (US Army Corps of Engineers, US EPA) and MDT
- May 16, 1994: Conference call to discuss air quality analysis with MDHES, EPA and MDT.
- May 17, 1994: Field review meeting to discuss wetland mitigation with USFWS and Kalispell Parks.
- June 17, 1994: Conference call to discuss wetland mitigation with EPA, USFWS, US Army Corps of Engineers, Kalispell Parks and MDT.
- August 25, 1994: Meeting with the Montana Highway Commission to discuss the preferred alternative.

6.5.7 Telephone Conversation Comments

Approximately 170 comments were received on the Whitefish hotline number, or in other telephone conversations between February 24 and September 1, 1994.

6.5.8 Written Public Comments

Approximately 165 written comments were received from members of the general public between February 24 and September 1, 1994.

6.6 Comments and Responses

The following section provides a summary of comments made regarding the DEIS and responses.

6.6.1 Public Hearing Comments

Approximately 280 comments were received during the public hearing process. Copies of comments received are in Volume II, Chapter Two.

Public hearing comments were reviewed and analyzed to identify similar questions, concerns and opinions. A summary of similar comments, together with responses, is presented in the following pages.

6.6.1.1 Support for A(MEDIAN) or A(COMBO) Alternative (45 Comments)

Opinions were expressed in support of the A(MEDIAN) or A(COMBO) alternatives. The primary advantages of these alternatives were felt to be aesthetic, reduction in construction disruption, its longer service over time, less of an inclination to encourage strip development, safety, snow removal, socioeconomic advantages of retaining a "sense of place," indirect effects of loss of farmland and agricultural land. Response: The A(MEDIAN) alternative has noticeable advantages in the visual area, as described in Section 4.18. Differences in construction disruption occur in the areas where the A(MEDIAN) alternative is located to the side of the existing roadway, except in transition areas. Generally, alternatives with medians provide better traffic service for the through traveler, especially in locations of higher traffic volumes. The A(MEDIAN) alternative will be less inclined to encourage commercial strip development and thus will likely have less of an effect on conversions of agricultural property to residential or commercial development, at least in the short-term. Safety advantages (as described in Section 4.1.3) are not clear: the A(MEDIAN) alternative has a lower accident rate at non-intersection related accidents but a higher accident rate at unsignalized intersections. Although snow storage may be easier with the A(MEDIAN) alternative, other maintenance requirements may offset this. MDT maintenance personnel believe that neither alternative is inherently easier or cheaper to maintain than the other. The social costs of a loss of "sense of place" for a community are more fully described in Section 4.4.

The preferred alternative [the A(COMBO)] attempts to balance the advantages and disadvantages of each of the two basic alternatives and recommends particular locations to minimize impacts and costs of one alternative and to gain the benefits of another alternative.

6.6.1.2 Support for A(TURN-LANE) Alternative (46 Comments)

Opinions were expressed in support of the A(TURN-LANE) alternative. The primary advantages of this alternative were felt to be its fewer right-of-way requirements, lower construction cost, effect to access, safety, maintenance and control of drifting snow. Response: As described in the DEIS, the A(TURN-LANE) alternative has fewer additional right-of-way requirements and lower construction costs. It generally does not allow for unlimited, full-turning movement access to a particular property, resulting in out-of-direction travel and U-turns for those properties not provided with a median break for their property. These impacts are documented in Section 4.1.2 and 4.4.1 of the Draft and Final EISs. The safety analysis of the various alternatives are documented in Section 4.1.3 of the Draft and Final EIS. The A(TURN-LANE) alternative tends to result in a lower accident rate at unsignalized intersections but a higher accident rate at non-intersection related accidents. Maintenance implications of the two basic alternatives are described in Section 4.20. Discussions with MDT maintenance personnel indicate that although different types of maintenance activities are required, neither is inherently easier or cheaper to maintain than the other. Similarly, drifting of snow has not been shown to be exacerbated by the presence of medians.

The preferred alternative [the A(COMBO)] attempts to balance the advantages and disadvantages of each of the two basic alternatives and recommends particular locations to minimize impacts and costs of one alternative and to gain the benefits of another alternative.

6.6.1.3 Suggestions for Intersection Modifications (36 Comments)

Numerous suggestions were made about specific intersection details, including additions of more turn lanes, adding new intersections or combining intersections. Response: The intersection details shown at the public hearings and in the EIS are based on a conceptual level of design. These will be refined during the final design process and consideration will be given to suggestions made for modifications at that time.

6.6.1.4 Support for Kalispell Bypass Alternative (15 Comments)

Support was expressed for a bypass of the Kalispell central city area. The primary advantages of the bypass were felt to be its relief of congestion on Main Street through town. Response: The primary advantage of the Kalispell bypass are described in Section 5.3.1 of the Final EIS. This has been included as a part of the preferred alternative.

6.6.1.5 Support for Separated Bikepath (16 Comments)

Support was expressed for a separated bikepath. Response: A separated bikepath (where possible) has been included as a part of the preferred alternative.

6.6.1.6 Request to Move an Intersection to Hodgson Road (11 Comments)

Several requests were made to move a median break [with the A(MEDIAN) alternative] to Hodgson Road. A median break was not shown at Hodgson Road on the Public Hearing drawings nor in the Draft EIS. Response: The drawings prepared were at a conceptual design level of detail. Information developed since that time now includes a median break at Hodgson Road.

6.6.1.7 Comments about Whitefish Alternatives

The following comments were made about the Whitefish alternatives. Information regarding the analysis of alternatives and the reason for the recommendation for the preferred alternative is in Chapter Two of the Final EIS.

- Support for three lanes west of Whitefish (one comment).
- Support for four lanes west of Whitefish (one comment).
- Opposition to C(OFF-SET) (four comments).
- Support for C(OFF-SET) (two comments).
- Opposition to A(FOUR-LANE) (five comments).
- Support for A(FOUR-LANE) (one comment).

- Support for any of the couplet alternatives (one comment).
- Opposition to any of the couplet alternatives (three comments).
- Support for Seventh Street bridge (14 comments).
- Opposition to Seventh Street bridge (7 comments).
- Support for COUPLET-2 (two comments).
- Support for COUPLET-4 (one comment).
- Opposition to COUPLET-4 (one comment).

6.6.1.8 Support Restrictive Access Control Alternative (Five Comments)

Support was expressed for the restrictive access control alternative. Response: The restrictive access control policy (with flexibility) has been included as a part of the preferred alternative.

6.6.1.9 Add Frontage Roads (Six Comments)

Requests were made to add frontage roads in certain locations, to provide adequate access to properties, if the A(MEDIAN) alternative is recommended. Response: More detailed information has been developed since the Draft EIS which shows median breaks more often than those shown in the Draft EIS. These are now documented in Appendix A of the Final EIS. Additional frontage roads have been added in one location between Kalispell and Whitefish.

6.6.1.10 Concern About Construction Impacts (Four Comments)

Concerns were expressed about impacts during construction. Response: These impacts are described in Section 4.20 of the Final EIS.

6.6.1.11 Opposition to Kalispell Bypass (Five Comments)

Opposition was expressed to the Kalispell bypass. Response: The primary reasons for selection of the Kalispell bypass are described in Chapter Two and in Section 5.3.1 of the Final EIS.

6.6.1.12 Support for Special Design Concepts (Nine Comments)

Support was expressed for the special design concepts, including the scenic turn-out south of Somers and the other enhancement features. Response: Most of these have been included as a part of the preferred alternative. The exceptions are:

- The Four Corners visitor center has been removed, since it is generally a duplication of the site already at Lions Park.

- The split alignments have been removed because of right-of-way and cost impacts.

- The bridge over the Whitefish River for Spokane Avenue has not been included because of cost concerns.

6.6.1.13 Opposition to Split Alignments (Three Comments)

Opposition was expressed to the two split alignment options which were shown in the Draft EIS. Response: These have not been included as a part of the preferred alternative.

6.6.1.14 Recommendations for Alignment Modifications (Four Comments)

Requests were made for alignment refinements in certain locations. Response: During the final design process, slightly different alignments to avoid right-of-way impacts will explored.

6.6.1.15 Request for Underpass for Farm Equipment (Three Comments)

Concern was expressed about effect to livestock and farm equipment moving across US 93 on various properties. Response: Meetings with property owners will be held again during the final design process to work out details for livestock and farm equipment crossings of US 93.

6.6.1.16 Request for Reconsideration of Whitefish Bypass (Three Comments)

Questions were asked about the status of the Whitefish bypasses. Response: As documented in Chapter 2, none of the Whitefish bypass alternatives were found to meet project purpose and need. These alternatives are being studied in the Whitefish Traffic Operations Study, specifically to be designated as a bypass truck route.

6.6.1.17 Concerns about More Traffic on Baker Street (Three Comments)

Concerns were expressed about the impacts of trucks, noise and extra traffic into the neighborhood. Concerns were also expressed about impacts of the Seventh Street bridge. Response: These impacts are addressed in Sections 4.4.1 (Social), 4.1 (Transportation) and 4.9.1 (Noise) of the Final EIS. Many of these impacts will occur as a result of the Baker Street extension project, which is a City of Whitefish project. Traffic on Baker will only increase by approximately 12 percent per day, when compared to the No-Build Alternative, which includes the Baker Street extension. The Seventh Street extension will tend to relieve traffic on Second Street. Alternatives to route trucks around Whitefish are continuing to be explored during the Whitefish Traffic Operations Study.

6.6.1.18 Other Concerns or Questions

- **Recommend grade separated pedestrian crossing at Happy Valley. Response: In order for a grade-separated pedestrian crossing to be effective, there must be accompanying physical prohibitions (such as fencing on both sides of US 93) to prevent an at-grade**

crossing. Grade separations are also costly. For these reasons, a grade separation at Happy Valley has not been recommended, but other accommodations for pedestrians will be included, such as a pedestrian-activated signal if warranted.

- The EIS did not consider the impacts of a median on emergency vehicle access. Response: The impacts of a median on emergency vehicle access were addressed in Section 4.4.1.3 of the Draft EIS.

- Agreements need to be reached to maintain landscaping in the median. Response: These agreements have been agreed to in principle for the urban areas. MDT will maintain the grassy medians in the rural areas.

- What are the noise impacts noted on the public hearing drawings? Response: This information is an indication of where in the Year 2015 noise levels are likely to be at or above 67 decibels, which is a level for indicating that mitigation should be considered. Many of these locations will receive these noise levels regardless of the alternative that is chosen (including the No-Build).

6.6.2 Advisory Committee Comments

The following comments were of primary concern to the Advisory Committee in their discussions about issues and the preferred alternative. Meeting minutes from Advisory Committee meetings held subsequent to publication of the Draft EIS are in Volume II, Chapter Three.

6.6.2.1 Landscape Maintenance Tasks and Responsibilities

There was a question about who was responsible for maintaining landscaped areas and what were the tasks associated with the maintenance. Response: This information was provided and discussed in detail with Advisory Committee members at their April 12 meeting. Tasks include mowing, fertilization and weed control of grassy areas; litter pick-up; irrigation system monitoring and repair; weeding, fertilization, mulching and trimming of shrub beds; fertilization, pruning and spraying of trees and provision of cost and water supply for irrigation. Sample maintenance agreements were provided to the Advisory Committee.

Entities other than MDT have responsibility for maintaining landscaped areas in urban sections.

6.6.2.2 Economic Impact

There was a concern identified that the DEIS did not adequately address the economic impacts to the community due to the loss of open space. Response: Additional analysis was done and discussed with the Advisory Committee at their April 12 and 23, 1994 meetings. Additional analysis included:

- Impacts of strip development.
- Impact during construction.
- Costs of sprawl.

This information is included in this Final EIS.

6.6.2.3 Safety

It was felt that the DEIS did not adequately address the effects of weather on the various alternatives, such as poor visibility of lane striping. Response: Additional analysis was done and provided to the Advisory Committee at the April 12, 1994 meeting. The problems related to weather were defined in more detail and additional research from the Transportation Research Board was provided and discussed with the Committee.

This additional information is included in this Final EIS.

6.6.2.4 Right-of-Way Needed

Clarification was requested about additional right-of-way needed for a separated bikepath and for other features, such as frontage roads or truck turn-arounds. Response: Additional analysis was done and provided to the Advisory Committee at their April 12, 1994 meeting. Analysis provided indicated that:

- Additional right-of-way would be needed for a separated bikepath.
- Additional right-of-way is needed for frontage roads and intersection improvements.
- Refinements to Tables 4-7 and 4-8 were provided to the Committee.

Final right-of-way information is included in this Final EIS.

6.6.2.5 Construction Staging

Additional concerns were expressed about the impacts during construction. Response: Information was provided to the Advisory Committee which described specifications which could be covered in a construction staging plan, including possible incentives to contractors, restrictions related to working hours, traffic control plans and other items. Additional information was also provided about the construction staging impacts in Whitefish which would occur if the culverts under US 93 for the Whitefish River were replaced with a bridge.

This additional information is included in this Final EIS.

6.6.2.6 Funding/Scheduling

Concerns were expressed that information about the funding and scheduling implications of the various alternatives be discussed with the Advisory Committee. Response: Special analysis of funding available, other priorities in District 1, total construction cost for all other priorities and the amount available for construction was conducted and provided to the Advisory Committee on April 12, 1994. It was also discussed in detail with the Committee.

6.6.2.7 Other Issues

Other issues such as access impact, analysis of turning traffic and analysis of alternatives in Whitefish were discussed with the Advisory Committee.

6.6.3 Comments from Meetings with Groups or Individuals

Comments from meetings with groups or individuals were reviewed and analyzed to determine similar interests or concerns. A summary of the meetings held is in Volume II, Chapter Four. Full meeting minutes with handouts are on file with FHWA in Helena. A summary of these follows:

6.6.3.1 Support for A(TURN-LANE) Alternative (Approximately 168 People)

Opinions were expressed in support of the A(TURN-LANE) alternative. The primary advantages of this alternative were felt to be its fewer right-of-way requirements, lower construction cost, effect to access, safety, maintenance and control of drifting snow. Response: As described in the DEIS, the A(TURN-LANE) alternative has fewer additional right-of-way requirements and lower construction costs. It generally does not allow for unlimited, full-turning movement access to a particular property, resulting in out-of-direction travel and U-turns for those properties not provided with a median break for their property. These impacts are documented in Section 4.1.2 and 4.4.1 of the Draft and Final EISs. The safety analysis of the various alternatives are documented in Section 4.1.3 of the Draft and Final EIS. The A(TURN-LANE) alternative tends to result in a lower accident rate at unsignalized intersections but a higher accident rate at non-intersection related accidents. Maintenance implications of the two basic alternatives are described in Section 4.20. Discussions with MDT maintenance personnel indicate that although different types of maintenance activities are required, neither is inherently easier or cheaper to maintain than the other. Similarly, drifting of snow has not been shown to be exacerbated by the presence of medians.

The preferred alternative [the A(COMBO)] attempts to balance the advantages and disadvantages of each of the two basic alternatives and recommends particular locations to minimize impacts and costs of one alternative and to gain the benefits of another alternative.

6.6.3.2 Support for C(COUPLET-2) or C(COUPLET-3) Because of the Seventh Street Bridge (13 People)

Support was expressed for the Whitefish couplet alternatives that included the Seventh Street Bridge, because it minimizes the out-of-direction travel. Response: No response is needed, since this is the preferred alternative.

6.6.3.3 Support for Special Design Concepts (19 People)

Support was expressed for the enhancement features of bridges to accommodate pedestrian facilities, community gateways and landscaping. Response: See response for Section 6.6.1.12.

6.6.3.4 Capacity of New Intersections in Whitefish (Ten People)

Concern was expressed about whether or not the intersections in Whitefish could be adequately designed to accommodate trucks and heavy volumes of traffic. Response: A special analysis has been prepared of intersections in Whitefish. It is summarized in Section 4.1.

6.6.3.4 Design Between the River and Karrow

Concern was expressed about whether or not a four-lane design is needed west of Whitefish between the river and Karrow. Response: We have reanalyzed this area. The preferred alternative now is for a three-lane section with attached sidewalks. This is fully described in Chapter Two.

6.6.3.5 Support for A(MEDIAN) or A(COMBO) Alternatives (12 People)

Opinions were expressed in support of the A(MEDIAN) or A(COMBO) alternatives. The primary advantages of these alternatives were felt to be aesthetic, reduction in construction disruption, its longer service over time, less of an inclination to encourage strip development, safety, snow removal, socioeconomic advantages of retaining a "sense of place," indirect effects of loss of farmland and agricultural land. Response: The A(MEDIAN) alternative has noticeable advantages in the visual area, as described in Section 4.18. Differences in construction disruption occur in the areas where the A(MEDIAN) alternative is located to the side of the existing roadway, except in transition areas. Generally, alternatives with medians provide better traffic service for the through traveler, especially in locations of higher traffic volumes. The A(MEDIAN) alternative will be less inclined to encourage commercial strip development and thus will likely have less of an effect on conversions of agricultural property to residential or commercial development, at least in the short-term. Safety advantages (as described in Section 4.1.3) are not clear: the A(MEDIAN) alternative has a lower accident rate at non-intersection related accidents but a higher accident rate at unsignalized intersections. Although snow storage may be easier with the A(MEDIAN) alternative, other maintenance requirements may offset this. MDT maintenance personnel believe that neither alternative is inherently easier or cheaper to maintain than the other. The social costs of a loss of "sense of place" for a community are more fully described in Section 4.4.

The preferred alternative [the A(COMBO)] attempts to balance the advantages and disadvantages of each of the two basic alternatives and recommends particular locations to minimize impacts and costs of one alternative and to gain the benefits of another alternative.

6.6.3.6 Construction Staging and Phasing Plan (One Person)

A request was made for a construction staging and phasing plan (one person). Response: As stated in Section 4.20 of the FEIS, a detailed construction staging plan will be developed prior to construction.

6.6.4 Agency Comments

The following comments are recorded by agency, with responses made individually. Agency letters and other coordination documents are in Volume II, Chapter Five.

6.6.4.1 US Army Corps of Engineers: May 27, 1994

- Section 4.11.1.2: Recommend incorporating avoidance of Wetland 1 into the design if it is practical. Response: A sentence has been added which states "this will be incorporated into the design if at all possible."

- The statement is made that impacts are not different, however, a description of the impacts is not provided. Response: A chart showing wetland impact by wetland is now in Section 4.11.

- It should be made clear that Section 404 permits are needed for any discharge of dredged or fill material associated with bridge and pier construction or bank stabilization work. Response: The sentence referring to this permit has now been modified to indicate this.

- Appendix A: Need to clarify whether or not the wetlands shown are existing or proposed wetlands. Response: This will be added to the maps (they are existing wetlands).

- Potential mitigation sites with development plans should be identified. Response: Several agencies specifically requested that specific wetland mitigation sites that are privately owned not be included in the Draft EIS. This was discussed with the Omaha District of the Corps. Our most recent discussions indicate that Lawrence Park, a publicly-owned facility, is a finalist for wetland mitigation. Details about this will be in the Final EIS. Approval of these plans would be needed before a Section 404 permit could be approved.

- Mitigation funding sources should be identified. Response: A sentence has been added to Section 4.11.3 stating: "MDT is the responsible entity for funding and implementing the mitigation plan."

- An on-site field trip to review the mitigation site should be completed prior to the release of the FEIS. Response: A field trip was held with the USFWS on May 17, 1994. A second trip will be planned later.

6.6.4.2 US Army Corps of Engineers: July 22, 1994

- **Concur with the wetland mitigation strategy. Response: No response is needed.**

- **Documentation will be needed that unavoidable wetland losses will occur. Response: This will be provided at the time of Section 404 permit application.**

- **All mitigation measures are subject to final approval/rejection pending review of final plans and evaluation of wetland functions and values. Response: This is assumed to occur at the time of Section 404 permit review.**

6.6.4.3 US Army Corps of Engineers: August 4, 1994

- **Need more information about wetland impact by wetland. Response: A new chart has been added which defines wetland impact for each wetland.**

- **The source of funding for wetland mitigation needs to be defined. Response: This has been added to Section 4.11.3.3. Wetland mitigation is part of the project cost.**

- **The "wetland" maps in Appendix A are being updated. They illustrate existing wetlands, not proposed wetlands.**

6.6.4.4 US Environmental Protection Agency: April 28, 1994

- **It is not clear why the Lawrence Park wetland mitigation site is favored over the other sites. It also seems premature to proceed with wetland mitigation at Lawrence Park when a preferred alternative has not been selected and the magnitude of wetland impact is unknown. Response: A the wetland meeting on May 11, 1994 (subsequent to this letter), more detailed information was provided about the likely preferred alternative, wetland impact, function of the impacted wetlands and the Lawrence Park mitigation site. A more detailed discussion of wetland mitigation was held with EPA, USFWS and the Corps on June 17, 1994.**

- **The goal of mitigation should be to replace the functions and values of the wetlands impacts. Response: A sentence to this effect has been added to Section 4.11.3.**

- **It is difficult to identify and quantify the impacts of the individual wetlands. Response: A table has been added which quantifies impact by wetland.**

- **Assessment of the success of mitigation wetlands should include certain criteria, defined in the April 28, 1994 letter. Response: These have been added to Section 4.11.3.**

- **A commitment is needed to take corrective action if wetland mitigation criteria are not met. Response: This commitment has been added.**

6.6.4.5 US Environmental Protection Agency: May 2, 1994

- The project's compliance with the emissions budgets in the Kalispell SIP is largely due to the use of more recent, lower emission factors, permitted under EPA's rule. Response: No response is necessary, since use of these lower emission factors was agreed to with all agencies and is permitted by EPA.

- The final EIS must identify a specific mitigation strategy, quantify its emissions benefits, include written commitments to carry out the mitigation measures and include a schedule for doing this. Response: The Final EIS has provided this information.

- Street sweeping is recommended as a more effective mitigation strategy than park-n-ride and pedestrian and bicycle facilities. Response: This was considered earlier but is now not needed to show conformity.

- The Kalispell analysis should be added to the Final EIS. Response: This has been added.

- Bridges at the crossings of Ashley Creek and the Whitefish and Stillwater Rivers are supported to minimize disturbance of riparian habitat and reduce river encroachment and provide for sediment and bedload transport. Response: Bridges are still planned for the crossing of Ashley Creek and the Stillwater River. However, an alternative has been chosen at the Whitefish River which is to leave the culverts in place.

- Section 3.10 needs to identify wetlands and other environmentally sensitive areas in reasonable proximity to the alignments and bypass routes. Response: A paragraph has been added to Section 3.10 generally addressing these.

- An improved analysis of indirect effects of induced land use and population growth changes is needed for Alternative B. Response: A bypass of the Kalispell area is anticipated to accelerate growth in the general vicinity, but this is growth that will occur regardless of implementation of a bypass. Effects of this on wetlands will be controlled through the Section 404 permit process.

- It is difficult to identify impacts to individual wetlands. Response: A table has been added which quantifies wetland loss by wetland.

- Page B-8: The wording for item c is incorrect. Response: This has been changed.

- The wetland fills for Bypass B are not included on page B-12. Response: This table was incorrectly labeled so that Alternative A(FOUR-LANE) and C(OFF-SET) should have referred to Alternative B. A corrected table was provided to all agency personnel on March 30 and is now included in the Final EIS.

- Page B-14 needs to have a stronger statement about avoidance of construction during migration or spawning periods. Response: The Final EIS includes such a statement.

- Page B-25 needs to have correct information about wetland impact. Response: The Final EIS will include correct information about wetland impact for the preferred alternative.

- Alternative A through Kalispell is the environmentally preferred alternative. Response: Alternative A through Kalispell has not been selected as the preferred alternative for the following reasons:

  - Substantial increases in congestion through the central area of Kalispell.
  - Increases in PM10 and carbon monoxide pollution.
  - Substantial disruption to residential and commercial areas as a result of diversion of traffic from US 93.
  - Likely increases in noise and decreases in property value on residential streets which would receive diverted traffic.
  - Noticeable economic impact to Kalispell commercial area as a result of decreased accessibility.
  - Substantial increases in congestion on east-west streets that would need to cross US 93.

- The Situational Access Control alternative is the environmentally preferred alternative. Response: The access control alternative which is preferred is Restrictive Access Control (with flexibility), which is more restrictive than the situational alternative and should be thus more environmentally acceptable.

- The median or the combo alternative is the environmentally preferred alternative. Response: The A(COMBO) alternative has been selected as the preferred alternative.

6.6.4.6 US Environmental Protection Agency: May 16, 1994

- There are concerns about mitigating the loss of wetland functions and values with the construction of one 6-acre wetland pond at Lawrence Park. Response: As discussed at the May 11, 1994 meeting, the preferred wetland mitigation plan is to construct the Lawrence Park mitigation as well as one or two other sites in the highway right-of-way.

- There is concern that construction activities at Lawrence Park will disturb the already established wetland habitat. Response: We believe that this concern comes from incorrect information about the exact location of the planned wetland mitigation. The construction of the new wetland can take place without disturbing existing wetlands.

- More details about the Lawrence Park wetland mitigation site need to be provided. Response: We have since met with USFWS personnel on site and discussed more detailed plans for Lawrence Park with EPA, USFWS and the Corps on June 17, 1994.

6.6.4.7 US Environmental Protection Agency: July 21, 1994

- The statement on page 4-54 that emissions from the preferred alternative are less than one percent higher than the no-build alternative is incorrect. Response: This statement has been omitted.

- The FEIS must include written commitments to carry out the specific mitigation measures and include a schedule for implementation of mitigation measures. Response: The FEIS provides this information.

6.6.4.8 US Environmental Protection Agency: July 22, 1994

- We recommend that the project currently underway at Ashley Creek be included in the wetland mitigation package. Response: This project will be mentioned.

- We believe this collection of wetland mitigation efforts will adequately compensate for the lost wetlands. Response: No response is needed.

6.6.4.9 US Environmental Protection Agency: August 3, 1994

- Previous comments were made regarding wetlands and air quality issues. Response: Responses to these comments are noted in Sections 6.6.4.7 and 6.6.4.8.

- Section 4.20 should indicate that discharges in streams supporting aquatic life shall not occur in spawning areas. Response: Section 4.20 contains this information.

- Additional information is needed about the indirect land use effects of the Kalispell bypass and impacts on other natural resources. Response: This information was provided on August 12, 1994 to EPA (included in Volume II) and is now in the FEIS.

6.6.4.10 US Environmental Protection Agency: August 18, 1994

- The August 12 letter to EPA is acceptable to EPA. Response: No response is needed.

6.6.4.11 US Department of the Interior: May 11, 1994

- We cannot support the selection of Alternative B in Kalispell, which impacts three Section 4(f) properties, since no information is provided to substantiate that the selection of Alternative A is not feasible or prudent. Response: Information to support this determination is now provided in the Final Section 4(f) Statement. Response is summarized in Section 6.6.4.5, paragraph 13.

6.6.4.12 US Department of the Interior: August 3, 1994

- We concur that there are no feasible or prudent alternatives to the proposed use of Section 4(f) properties discussed in the revised document. We also concur with the measures to minimize harm. Response: No response is necessary.

6.6.4.13 Advisory Council on Historic Preservation: July 11, 1994

- **The Council concurs with your finding of adverse effect and elects to participate in the consultation process. Response: Information was provided to the Council in July for their review.**

6.6.4.14 US Fish and Wildlife Service: July 17, 1994

- **We have no additional comments beyond which we have previously made to you through the coordination and planning of this project. Response: No response is needed.**

6.6.4.15 US Fish and Wildlife Service: August 8, 1994

- **Based on our review of the FEIS and wetland mitigation plan, the Service believes that your proposed wetland mitigation plan will adequately compensate for unavoidable wetland losses associated with any of the build alternatives. Response: No response is needed.**

6.6.4.16 Montana Department of State Lands: April 27, 1994

- **We prefer an alternative that can be executed within the existing highway right-of-way (between Grandview and Reserve). Response: The alternative that has been chosen in this section is the one that needs the least right-of-way.**

- **Because safety is important to us, we would prefer to see a divided highway. Response: A divided highway is not necessarily safer, as discussed in Section 4.1 of the Final EIS.**

- **If a divided highway is selected adjacent to our property, we need a turning bay. Response: A divided highway was not selected at this location.**

- **We strongly support providing bicycle lanes. Response: The preferred alternative is to provide a separated bikepath where feasible.**

- **We support the concept of a pedestrian tunnel at FVCC. Response: A pedestrian tunnel can be accommodated in the future, but is not planned to be implemented as a part of the preferred alternative, primarily because of cost considerations.**

6.6.4.17 Montana Department of Health and Environmental Sciences, Air Quality Bureau: May 17, 1994

- **Page 5-4: Need to add mitigation in Whitefish as a major unresolved issue and transportation conformity as another "Other Federal Action Required." Response: The bullet saying "final air quality mitigation has not been resolved" was intended to address mitigation needed for conformity in Whitefish. Transportation conformity (which is needed**

by the time the Final EIS is published) has been added as one of the "Other Federal Actions Required."

- Page 1-4: Request to remove the sentence that carbon monoxide will decrease. Response: This has been done.

- Page 1-16: The second bullet does not necessarily hold true for PM10. Response: This statement has been modified to address CO only.

- Page 2-3: Change Montana Air Quality Board to Montana Air Quality Bureau. Response: This has been done.

- Figures 2-2 and 2-3: Add that the areas are non-attainment for PM_{10}. Response: This has been added to these figures.

- Section 2.4.3: Recommend that limited accesses are paved. Response: MDT will commit to paving all regularly used approaches to the right-of-way line. Seldom used approaches, such as fields to access farms are only paved for 12 feet.

- Page 4-54: Any TSM measures included as a part of air quality should be enforceable. Any mitigation necessary should also be quantified in order to demonstrate conformity. Response: The Final EIS includes written commitments to the air quality mitigation needed for conformity.

- Page 4-55: Air quality mitigation during construction needs to be committed to. Response: The Final EIS provides this commitment.

- An annual emissions analysis is no longer needed. Response: This information has been removed from Section 4.8.

6.6.4.18 Montana Department of Health and Environmental Sciences, Air Quality Bureau, August 8, 1994

- The Air Quality Bureau is now known as the Air Quality Division. Response: This change will be made.

- Figures 2-2 and 2-3: Air quality was not mentioned in the constraints. Response: It has now been added.

- Page 2-40: Should the alternatives change, AQD would need to reserve its comments until a review of a revised regional emissions analysis is complete. Response: No response is needed.

- Page 3-38: need to add a third control strategy for Kalispell. Response: This has been added.

- Page 3-38: Need to add an additional control strategy for Whitefish. Response: This has been added.

- **Page 4-45: Need to change the statement that emissions from the preferred alternative are less than one percent higher. Response: This has been done.**

6.6.4.19 Montana Department of Health and Environmental Sciences, Water Quality Bureau: May 31, 1994

- **Comments are similar to EPA April 28 comments. Response: See Section 6.6.4.4 for a response to these comments.**

- **Recommend consideration of a wetland site in Kalispell (details were provided in the letter). Response: This site will be considered for wetland mitigation.**

6.6.4.20 Montana Department of Fish, Wildlife and Parks: June 6, 1994

- **Support expressed for Rails-to-Trails Mitigation Plan. Response: This has been committed to as described in Chapter Five.**

- **Need to assure that the replacement property is appraised as being of at least equal value. Response: The appraisal process will take place after completion of the Final EIS. The mitigation plan will commit to additional property if needed to assure replacement of equal value.**

6.6.4.21 Montana Department of Fish, Wildlife and Parks: June 21, 1994

- **Consider this a letter of concurrence with Section 6(f) mitigation as proposed. Response: No response is needed.**

6.6.4.22 Montana State Historic Preservation Office: June 22, 1994

- **Concurrence with determinations of eligibility as modified in the June 22 letter. Response: These changes have been made in the FEIS.**

6.6.4.23 Montana State Historic Preservation Office: July 15, 1994 (Concurrence on MDT letter of June 28, 1994).

- **Concurrence with determination of effect. Response: This determination of effect is now documented in the FEIS.**

6.6.4.24 City of Kalispell: May 23, 1994

- Preference was expressed for the underpass alternative of the realignment of the Rails-to-Trails trail. Response: This alternative has been chosen as documented in Chapter 5.

- Preference was expressed for the original bypass alignment at US 2, west of the beer distributors. Response: The alignment shown in the Draft and Final EIS was derived based on numerous discussions with the property owner in that area. It also has less of an impact to the Ashley Creek Recreation Trail, a Section 4(f) property, more closely follows the railroad right-of-way and has less right-of-way impact on other properties. For these reasons, it has remained the preferred alignment as documented in the Draft EIS.

- Preference was expressed for the western realignment in the vicinity of the Greenbriar development. Response: This realignment is recommended, as described in Chapter Two and illustrated in Appendix A.

- Recommend the inclusion of sheltered left-turn bays in town at Oregon, California, Nevada and Wyoming. Response: These have been included as part of the preferred alternative, as described in Chapter 2 of the Final EIS and in Appendix A.

6.6.4.25 City of Kalispell: July 13, 1994

- It is necessary to merge this agreement with the original "Highway 93" beautification commitment. Response: The commitment to construction of gateway areas that is documented in the FEIS takes the place of commitments that were made previously.

- The City of Kalispell will be responsive to a maintenance agreement covering beautification landscaping. Response: This commitment has been included in the FEIS.

- The City would like to see trees designed into the gateway landscape and medians. Response: Trees have been assumed in the gateway areas. Trees can be included in median areas as space allows and as long as sight distance requirements are met.

- It is essential that the City have review authority. Response: The City will be involved in review of landscaped areas for which the City will be assuming maintenance responsibility.

6.6.4.26 City of Whitefish (Parks and Recreation Department): April 14, 1994

- Preference was expressed for a median at the entrances to the cities. Response: The preferred alternative recommended by the Advisory Committee includes medians at the entrances to Whitefish, but not at the entrances to Kalispell.

- Preference expressed for a new bridge over the Whitefish River to accommodate bikes and pedestrians. Response: The bridge over the River has not been included as a part of the preferred alternative for cost reasons.

6.6.4.27 City of Whitefish: June 28, 1994

- **The City is willing to enter into an agreement with MDT to maintain landscaped areas between MT 40 and the Whitefish River and along Second Avenue to west of Lion Mountain Road. Response: This has now been included in the FEIS.**

6.6.4.28 City of Whitefish: August 9, 1994

- **The Whitefish City Council supports a design between the Whitefish River and Karrow Avenue which includes a separated walk. Response: This is now included as a part of the preferred alternative.**

6.6.4.29 City of Whitefish (City Council): May 6, 1994

- **Preference expressed for C(COUPLET-3). Response: This alternative has been recommended as the preferred alternative.**

- **Recommend consideration of one southbound lane on Spokane to carry truck traffic. Response: A concept was explored for a raised median for Spokane separating a single southbound lane (for US 93 truck traffic) from two northbound lanes, all within the existing curb-to-curb width. This alternative would have many of the impacts of the four-lane alternative in that no provision would be made for left-turning traffic at intersecting streets, requiring traffic to stop in through traffic lanes, no provision for parking or bike lanes, and impacts to trees along the road due to tall trucks in the curb lane. It is not a part of the preferred alternative.**

- **Recommend the replacement of the Spokane Avenue culverts with a bridge. Response: This is not a part of the preferred alternative for cost reasons.**

6.6.4.30 Flathead County Parks: May 12, 1994

- **Support expressed for Rails-to-Trails Mitigation Plan. Response: This has been committed to as described in Chapter Five.**

6.6.4.31 Rails-to-Trails of NW Montana: April 25, 1994

- **Support expressed for underpass mitigation option for Rails-to-Trails mitigation plan. Response: This has been committed to as described in Chapter Five.**

6.6.4.32 The Confederated Salish and Kootenai Tribes of the Flathead Nation: February 10, 1994

- **Request a site visit of Alternative B. Response: Site visits were held on March 24 and April 12. Areas of concern include earth moving or excavation activities on previously undisturbed land. This concern has now been included in the Final EIS.**

6.6.5 Comments from Telephone Conversations

Comments from telephone conversations were analyzed and categorized into similar comments. These are recorded in Volume II, Chapter Six. These are:

6.6.5.1 Support for A(MEDIAN) (83 Conversations)

Opinions were expressed in support of the A(MEDIAN) or A(COMBO) alternatives. The primary advantages of these alternatives were felt to be aesthetic, reduction in construction disruption, its longer service over time, less of an inclination to encourage strip development, safety, snow removal, socioeconomic advantages of retaining a "sense of place," indirect effects of loss of farmland and agricultural land. Response: The A(MEDIAN) alternative has noticeable advantages in the visual area, as described in Section 4.18. Differences in construction disruption occur in the areas where the A(MEDIAN) alternative is located to the side of the existing roadway, except in transition areas. Generally, alternatives with medians provide better traffic service for the through traveler, especially in locations of higher traffic volumes. The A(MEDIAN) alternative will be less inclined to encourage commercial strip development and thus will likely have less of an effect on conversions of agricultural property to residential or commercial development, at least in the short-term. Safety advantages (as described in Section 4.1.3) are not clear: the A(MEDIAN) alternative has a lower accident rate at non-intersection related accidents but a higher accident rate at unsignalized intersections. Although snow storage may be easier with the A(MEDIAN) alternative, other maintenance requirements may offset this. MDT maintenance personnel believe that neither alternative is inherently easier or cheaper to maintain than the other. The social costs of a loss of "sense of place" for a community are more fully described in Section 4.4.

The preferred alternative [the A(COMBO)] attempts to balance the advantages and disadvantages of each of the two basic alternatives and recommends particular locations to minimize impacts and costs of one alternative and to gain the benefits of another alternative.

6.6.5.2 Support for A(TURN-LANE) (37 Conversations)

Opinions were expressed in support of the A(TURN-LANE) alternative. The primary advantages of this alternative were felt to be its fewer right-of-way requirements, lower construction cost, effect to access, safety, maintenance and control of drifting snow. Response: As described in the DEIS, the A(TURN-LANE) alternative has fewer additional right-of-way requirements and lower construction costs. It generally does not allow for unlimited, full-turning movement access to a particular property, resulting in out-of-direction travel and U-turns for those properties not provided with a median break for their property. These impacts are documented in Section 4.1.2 and 4.4.1 of the

Draft and Final EISs. The safety analysis of the various alternatives are documented in Section 4.1.3 of the Draft and Final EIS. The A(TURN-LANE) alternative tends to result in a lower accident rate at unsignalized intersections but a higher accident rate at non-intersection related accidents. Maintenance implications of the two basic alternatives are described in Section 4.20. Discussions with MDT maintenance personnel indicate that although different types of maintenance activities are required, neither is inherently easier or cheaper to maintain than the other. Similarly, drifting of snow has not been shown to be exacerbated by the presence of medians.

The preferred alternative [the A(COMBO)] attempts to balance the advantages and disadvantages of each of the two basic alternatives and recommends particular locations to minimize impacts and costs of one alternative and to gain the benefits of another alternative.

6.6.5.3 Status of Whitefish Bypass (One Comment)

One question was asked about the status of the Whitefish bypasses. Response: As documented in Chapter 2, none of the Whitefish bypass alternatives were found to meet project purpose and need. These alternatives are being studied in the Whitefish Traffic Operations Study, specifically to be designated as a bypass truck route.

6.6.5.4 Support for Kalispell Bypass (Two Comments)

Support for Kalispell bypass B was mentioned by two people. Response: This alternative has been included as a part of the preferred alternative.

6.6.5.5 Support for Separated Bikepath (Four Comments)

Support was expressed for a separated bikepath. Response: This has been included as a part of the preferred alternative in the locations where it is feasible to include one.

6.6.5.6 Impact in the Spencer Lake Area (One Comment)

There was a question about the impact in the Spencer Lake turn-off area. Response: This has been more specifically documented in Chapters Two and Four of the Final EIS.

6.6.5.7 Safety of the Five-Lane (One Comment)

One comment was made that the EIS should make it clear that accident severity is increased with the five-lane alternative. Response: Additional safety information is contained in Section 4.1 of the FEIS; however, numerous research findings all concur that accident severity does not conclusively increase with a five-lane in all situations. The five-lane tends to have accident severity which is higher at non-intersection related accidents but lower for unsignalized intersections.

6.6.5.8 Questions About Access (Six Comments)

Several property owners called requesting specific information about access. Response: Access to individual properties has been shown in the FEIS at a conceptual level; however, individual accesses will not be finally determined until the final design and right-of-way acquisition process.

6.6.5.9 Concerns About Seventh Street Bridge (Three Comments)

Concerns were expressed about the safety and cost of the Seventh Street bridge in Whitefish. Response: Additional analysis has been done of intersections associated with the Seventh Street bridge in Whitefish. This is summarized in Section 4.1 of the Final EIS.

6.6.5.10 Concern About Parking Impact in Whitefish (One Comment)

A concern was expressed about the impact to on-street parking in Whitefish. Response: Additional information about the parking impact is provided in Section 4.1 of the Final EIS.

6.6.5.11 Noise Barriers (One Comment)

A request was made to consider the installation of noise barriers in the segment between MT 40 and Whitefish. Response: Noise barriers were considered for properties along US 93, as described in Section 4.9.2. Noise barriers are not considered reasonable because of the density of direct access along US 93, which means that there would need to be constant breaks in a noise wall. Its effectiveness would be severely compromised.

6.6.6 Written Public Comments

Written comments received from members of the general public or public groups were categorized into similar comments. Written public comments are included in Volume II, Chapter Seven. These are:

6.6.6.1 Support for A(MEDIAN) (107 Letters)

Opinions were expressed in support of the A(MEDIAN) or A(COMBO) alternatives. Response: See response in Section 6.6.1.1.

6.6.6.2 Support for A(TURN-LANE) (26 letters)*

Opinions were expressed in support of the A(TURN-LANE) alternative. Response: See response in Section 6.6.1.2.

**Three of these letters were signed by multiple parties. A total of 92 signatures were received.*

6.6.6.3 Support for Alternative C-2 or C-3 in Whitefish (Five Letters)

Support expressed for Alternative C-3 in Whitefish was primarily because of the better circulation the Seventh Street bridge provides. Response: This alternative is the preferred alternative.

6.6.6.4 Support for A(COMBO) (Three Letters)

Several letters were written with specific recommendations about a combination alternative that utilized both a median and a center turn lane. Response: This alternative is the preferred alternative.

6.6.6.5 Support for Separated Bikepath (15 Letters)

Approximately 15 letters or comment sheets were received which expressed support for a separated bikepath facility. Response: This facility has been included in all feasible locations.

6.6.6.6 Opposition to a Baker Avenue Couplet (One Letter and a Petition with 135 Signatures)

A petition was received which expressed opposition to the designation of Baker Avenue as part of a US 93 couplet. Concerns expressed in the petition were the impacts of trucks, noise and extra traffic into the neighborhood. Concerns were also expressed about impacts of the Seventh Street bridge. Response: See response in Section 6.6.1.17.

6.6.6.7 Support for Kalispell Bypass (Two Letters)

Two letters were written specifically to express support for a bypass of the Kalispell area. Response: This has been included as a part of the preferred alternative.

6.6.6.8 Concerns About Effects to Individual Properties (Seven Letters)

These letters are answered individually:

- **From North Valley Refuse: April 19, 1994. Recommend either a five-lane alternative in the section of highway between Happy Valley and MT 40 or more frequent access points and truck turn-arounds. Response: The segment of US 93 from Milepost 122.7 to MT 40 is recommended to be a five-lane design, which will adequately provide for access needs and will preserve the trees along North Valley Refuse. The median design in the vicinity of Happy Valley has been modified to minimize out-of-direction travel needed. Antelope Trail Road will continue to provide secondary access to residences and businesses located between US 93 and this roadway. There will be some increases in traffic, as described in**

Section 4.4.1.3, but the traffic will be primarily associated with the residences and businesses in this area.

- From Gary Vallieres: May 10, 1994. Recommend not designating Antelope Trail as a frontage road because of impacts of noise and safety to residences living along Antelope Trail. Response: The median design in the vicinity of Happy Valley has been modified to minimize out-of-direction travel needed. Antelope Trail Road will continue to provide secondary access to residences and businesses located between US 93 and this roadway. There will be some increases in traffic, as described in Section 4.4.1.3, but the traffic will be primarily associated with the residences and businesses in this area.

- From Charlene O'Neil: April 14, 1994. Recommend the latest alignment for Alternative B as it passes through the O'Neil property south of US 2. Also object to the labeling of their property as a hazardous material site. Response: The latest alignment for Alternative B has not changed on the O'Neil property, and remains as it was shown in the Draft EIS. Hazardous material sites were obtained from the Montana Department of Health and Environmental Services and the Environmental Protection Agency.

- From Robert Hurly: March 31, 1994. Questions the effects to three of his properties. Response: A response was mailed directly to Robert Hurly. None of the alternatives propose acquisition of right-of-way from these properties.

- From Terry Eaton: May 9, 1994. Recommend a slightly different alignment to avoid taking property and trees along the property at 105 Welf Lane. Response: During the final design process, slightly different alignments to avoid right-of-way impacts will explored.

- From Richard and Robert Altenburg: May 8, 1994. Concerned about effect to livestock and farm equipment moving across US 93 on their property near Somers. Response: Meetings with property owners will be held again during the final design process to work out details for livestock and farm equipment crossings of US 93.

- From Jeff Fleming: July 15 and July 28, 1994: Concerned about effect of the frontage roads. Response: Continued coordination with Mr. Fleming will occur during the design process.

6.6.6.9 Effect to Kalispell Street Trees (Petition with Six Signatures)

Opposition was expressed to any alternatives which would have a negative impact on trees south of the courthouse. Response: An alternative has been recommended which minimizes right-of-way impact on the segment and will likely only affect a few trees at the northern end.

6.6.6.10 Letter from Jim Dedman, Flathead County Safety Council

- Recommend additional information on highway programming budgeting and scheduling. Response: More detailed information about this is found in the Final EIS.

- Support Kalispell Alternative B, restrictive access control, A(MEDIAN), pedestrian and bicycle facilities. Response: These items are all a part of the preferred alternative.

- Opposition to frequent shifts from one alternative to another. Response: The preferred alternative, which includes a mix of median and center turn lane as well as urban and rural sections, will be designed to minimize safety problems associated with frequent transitions.

- Recommend obtaining support from others for maintenance of "beautification" area. Response: Both the cities of Kalispell and Whitefish have agreed to maintain the beautification areas within the city limits.

6.6.6.11 Letter from H. Kusumoto

- Mitigation statements need to be made as commitments. Response: The Final EIS has done this.

- Table 5-1 should be labeled "Park and Recreation Areas" not Section 4(f) properties. Response: This change has been made.

- Chapter 5 should include a summary of all meetings and correspondence, including that with the SHPO and the ACHP. Response: Chapter 5 of the Final EIS includes this information.

- Recipients of DEIS should not include MDT or FHWA. Response: The new list in the Final EIS does not.

- It is difficult to determine whether a satisfactory response was made to a comment. Response: This section of Chapter Six is intended to provide this documentation.

- Page 6-7: Should the Federal Transit Administration really be UMTA? Response: The name of UMTA was changed to FTA several years ago.

- The description for the Kalispell-Somers track spur should indicate the tracks were removed by BN. Response: This is correct south of Ball's Crossing. This information has been added to Chapter Five.

- If MDT is listed as a cooperating agency, why did they sign-off on the document? Response: Their agreement with the final decision (made by the lead federal agency) is needed because they will ultimately need to fund the construction. In addition, their signature is included to assure compliance with MEPA.

- In the section from Airport Road to Ninth Street, recommend 12' lanes. What is the standard bike lane width? Response: Our new section for this area uses 12' lanes. The clear preference for bike facilities is a separated bikepath, so this has been provided where feasible at a width of eight feet. In constrained urban areas, this width varies, depending on the existing right-of-way or other constraints.

- Don't forget the elderly and handicapped. Response: All facilities will be designed to meet the Americans With Disabilities Act requirements.

- Pavement type is not discussed, but PCC should be considered in the Whitefish downtown area. Response: Pavement type will be determined during the final design process.

- Page 4-17: Suggest changing the C(OFF-SET) alternative to one lane each direction in the winter. Response: This alternative is not the preferred alternative, so no further analysis has been done.

- Is there enough room for SB right turns from Second to Baker for the large logging trucks: Response: Additional detailed analysis has been done of intersections and is summarized in Section 4.1 of the EIS.

6.6.6.12 Letter from Flathead Valley Community College

- Grandview to Reserve Street is incorrectly placed as rural. Response: The design for this segment is now planned as urban.

- Sidewalks are needed from Grandview north. Response: Sidewalks are planned in this area, as described in Chapter Two.

- We would like you to consider a raised median and median plantings. Response: Both the Advisory committee and the Highway Commission agreed on a five-lane alternative in this segment. Right-of-way is sufficient, however, to add a raised median in the future.

- A transportation transfer terminal building is needed. Response: This has not been included as a part of the preferred alternative. MDT's analysis of TSM and transit measures, which included input from FTA and input from a general public survey, concluded that a park-n-ride facility, which could be used by carpoolers or bus patrons, is the most cost-effective strategy for the US 93 corridor.

Chapter 7.0
List of Preparers

Chapter Seven

List of Preparers

Chapter 7.0: List of Preparers

The Federal Highway Administration is responsible for the preparation of this Final EIS. The primary consultant for this project is Carter & Burgess, Inc. Carter & Burgess used several subcontractors to provide technical expertise on various portions of this EIS. These subcontractors included:

- Greystone, Inc.: wetlands and biological analysis.
- GCM Services: historic and archaeological analysis.
- Kathy Bramer: public meeting facilitation.
- WGM group: aerial photography, public involvement
- Jim Boyer: land use and socioeconomic analysis

Table 7-1 lists representatives of the agencies and firms responsible for preparation of this Final EIS, with their project responsibility, education and experience.

Table 7-1
List of Preparers

Name, Title and Project Responsibility	Education	Experience
US Department of Transportation, FHWA		
Dale W. Paulson, Environmental Coordinator, FHWA Project Manager	BS, Civil Engineering, Professional Engineer	Twenty-six years of experience in highway design, construction and environmental coordination.
Montana Department of Transportation		
Gordon Stockstad, Acting Chief, Environmental and Hazardous Waste Bureau, MDT EIS Reviewer	BS, Industrial Arts Education	Twenty-four years of experience in traffic engineering, highway design and environmental analysis and coordination.
Thomas J. Barnard, Administrator, Highways Division	BS, Civil Engineering, Registered Professional Engineer	Twenty-seven years of experience in highway design, construction and administration.
Carter & Burgess and Subconsultants		
Gina McAfee, Project Manager, Carter & Burgess	BS, Landscape Architecture, Certified Planner	Eighteen years of experience in environmental analysis.
Jeanette Lostracco, Assistant Project Manager, Carter & Burgess	BA, Geography; Master of Business Administration; Certified Planner	Fourteen years of experience in environmental analysis.
Nanette Neelan, Traffic Analysis, Conceptual Design, Carter & Burgess	BS, Civil Engineering, Registered Professional Engineer	Thirteen years of experience in traffic, highway planning and design.
Joe Hart, Transportation Analysis, Carter & Burgess	BS, Civil Engineering; MS, Civil Engineering, Registered Professional Engineer.	Eighteen years of experience in conceptual design, traffic engineering, transportation planning and transit analysis.
Richard Hain, Conceptual Design, Carter & Burgess	BS, Civil Engineering, Registered Professional Engineer	Thirty years of experience in highway planning and design.

Dean Bradley, Roadway Design, Carter & Burgess	BS, Civil Engineering, Registered Professional Engineer	Twelve years of experience in highway planning, design and construction.
Michael Worrall, Conceptual Design, Carter & Burgess	BS, Civil Engineering, Registered Professional Engineer	Eleven years of experience in highway planning and design.
Lee Cryer, Noise and Air Quality, Carter & Burgess	BS, Economics; MA, Regional Science.	Seven years of experience in transportation planning.
Kathy Bramer, Meeting Facilitation	BS, Natural Resources	Twenty years of experience in facilitation, group dynamics, public involvement and group crisis intervention.
Jan McKee, Greystone, Wetlands	BS, Botany; MS, Plant Ecology	Eight years of experience in vegetation and wetland evaluation, and impact analysis.
Dave Cameron, Greystone, Wildlife	BS, Biology; MS, Animal Ecology	Fourteen years of experience in environmental analysis.
Mike Bonar, Greystone, Wildlife	BS, Environmental Biology	Five years of experience in wildlife impact analysis.
James Boyer, Social and Economics	BA, History; BAA, Marketing; MS, Planning and Economics	Eighteen years of experience in socioeconomic analysis in Montana.
Nick Kaufman, WGM group, public involvement assistance	BA, Economics; MS, Rural, Town and Regional	Fifteen years of experience in planning.
Lynn Fredlund, GCM, Cultural	PhD., Archaeology; MA, Anthropology; BS, Anthropology	Twenty years of experience in cultural resource inventories and assessments.
Dale Gray, GCM, Cultural	BA, History; MA, History	Four years of experience in cultural resource inventories and assessments in Montana.
Scott Richman, Environmental Analysis, Carter & Burgess	Bachelors, Environmental Design	Three years of experience in planning.
Michael Tupa, Visual Analysis, Carter & Burgess	BS, Landscape Design; MS, Landscape Architecture	Twenty one years of experience in visual analysis and landscape architecture.
Matthew Redmond, Environmental Analysis	BS, Geology; MS, Urban Regional Planning; MS, Landscape Architecture	Three years of experience in environmental analysis.
Mary Hopkins, Graphic Artist, Carter & Burgess	BS, Recreation	Fourteen years of experience in graphics and public involvement.
Misty McCoy, Word Processing, Carter & Burgess		Fourteen years of experience in word processing.
Judith Bergquist, Graphics, , Carter & Burgess	BFA, Design and Technical Theater; MA, Landscape Architecture	Three years of experience in visual analysis, landscape architecture, graphics and public involvement.
Kathy McKay, Cultural Resource Analysis	MA, American History	Five years of experience in cultural resource inventories and assessments.

Chapter 8.0
Recipients of FEIS

Chapter Eight

Recipients of FEIS

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Appendix A

Aerial Photo Drawings

This appendix includes:

• Aerial photos of preferred alternative along US 93	Exhibits 1-29
• Aerial photos of Kalispell bypass	Exhibits 1-9
• Intersection layouts	Exhibits 10-20

PREFERRED ALTERNATIVE

GENERAL NOTES:

Frontage roads, truck U -turn accommodations, right-of-way requirements, consolidation of access recommendations for a given segment, and intermediate driveway access to US 93 will be determined during the final design process, consistent with the US 93 Access Control Guidelines.

No truck U - turns or frontage roads are needed for 5-lane sections.

Intersection geometrics will be refined during the design process

PEDESTRIAN AND BICYCLE FACILITIES:

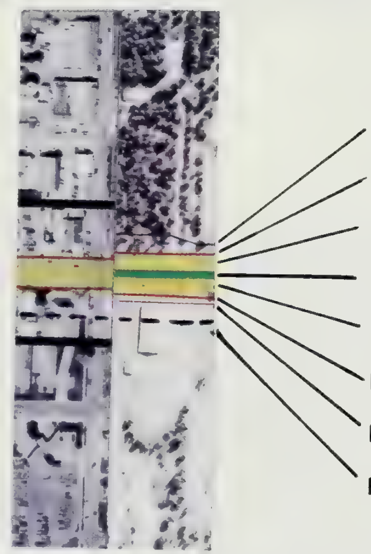
Pedestrian and bicycle facilities along a separate 2.44m (8ft) pedestrian & bicycle lane unless noted.

CENTERLINE LOCATION:

- Somers to Rocky Cliff Rd.; east offset.
- Rocky Cliff Rd. to MP 117; centered.
- MP 117 to Schrade Road; west offset.
- Schrade Road to KM Road; east offset.
- KM Road through & west of Whitefish; centered location.

NOTE: All dimensions are in meters(feet).

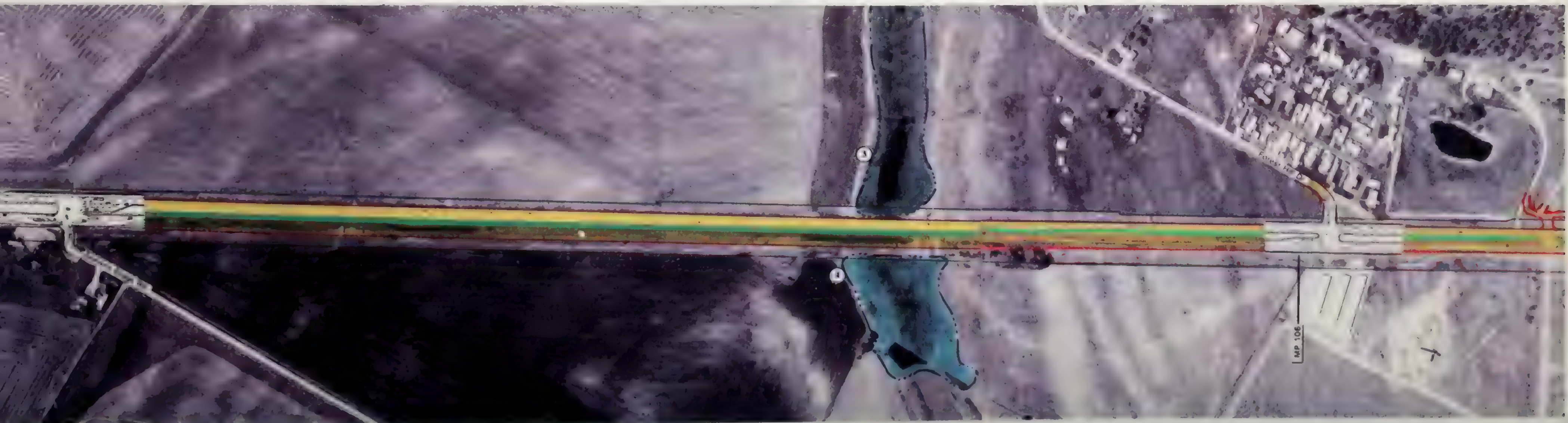
LEGEND :



- Special Design Concept: See figure following page.
- South of MT 82 to Rocky Cliff Rd.: Median divided highway.
- South of MT 82: Transition from Two to Four Lanes.
- New signal at MT 82 intersection when warranted.
- One acre park-n-ride at MT 82 location & design to be determined.
- Alignment is offset to the east of existing centerline: Somers to Rocky Cliff Rd.
- Access for agricultural properties including possible livestock underpass.
- Separated bike path & 2.4m (8ft) shoulders.
- Improvements for MT 82 intersection shown on exhibit following these aerial photos.

Preferred Alternative
Exhibit 1 of 29

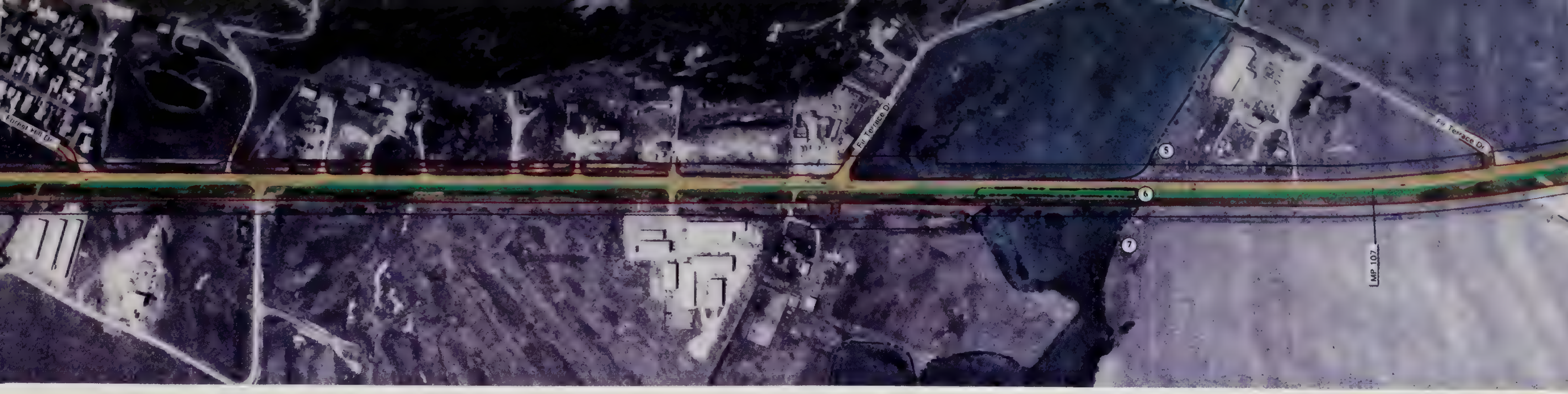
NORTH
200 100 0 200



- Access for agricultural properties including possible livestock underpass.
- Separated bike path & 2.4m (8ft) shoulders.
- Alignment is offset to the east of existing centerline.

Preferred Alternative
Exhibit 2 of 29

200 100 0 200

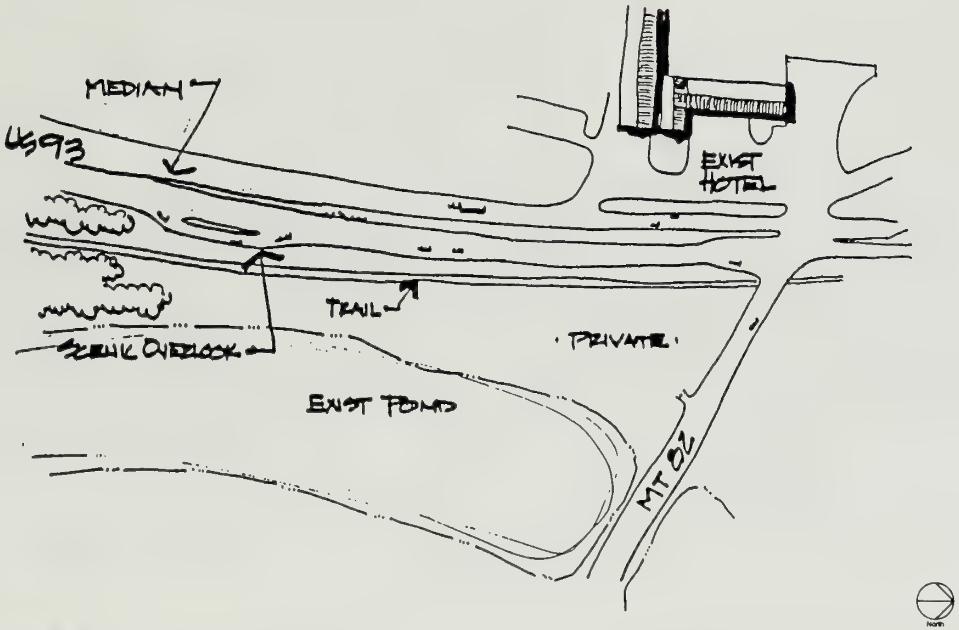


- Provide new frontage road along west side from152m (500ft) north of Forest Hill Dr. to 183m (600ft) south of Fir Terrace Rd.
- Access for agricultural properties.
- Separated bike path & 2.4m (8ft) shoulders.
- Alignment is offset to the east of existing centerline.

Preferred Alternative
Exhibit 3 of 29

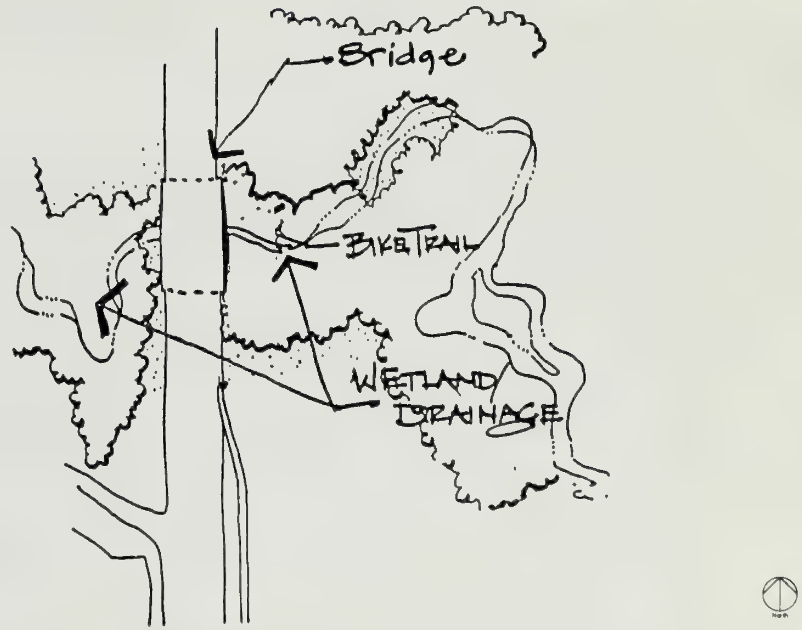
NORTH

200 100 0 200



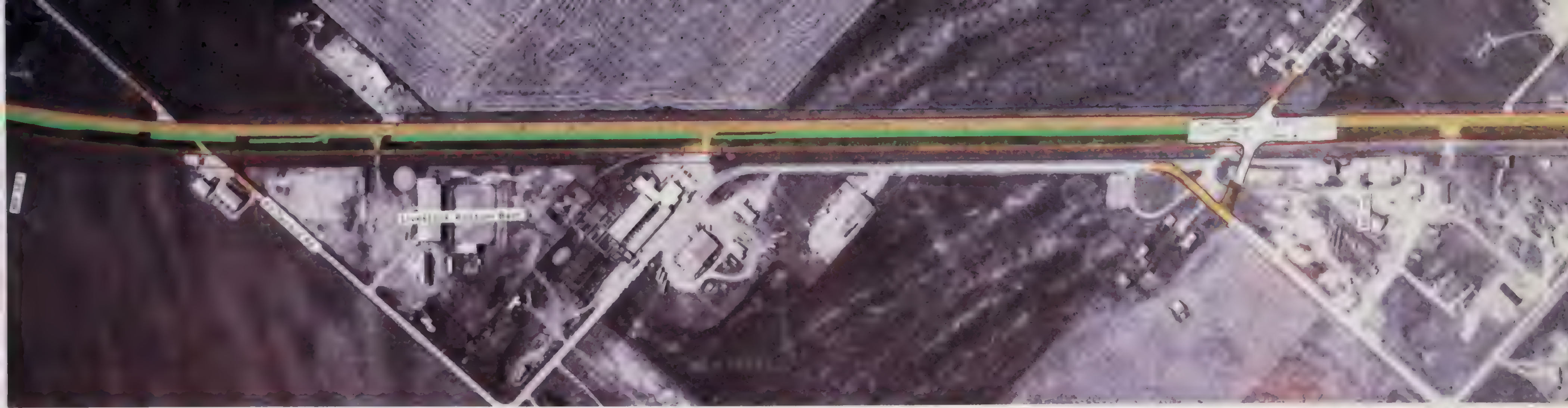
Special Design Concept: View Area

- Special Design Concept: For location see preceding page. Preferred Alternative exhibit 1 of 29



Special Design Concept: Ashley Creek Bridge

- Special Design Concept: For location see following page. Preferred Alternative exhibit 5 of 29



- Alignment is offset to the east of existing centerline.
- Transition at Rocky Cliff Rd. from 4 lane to 5 lane.
- Access for agricultural properties.
- Separated bike path & 2.4m (8ft) shoulders.

Preferred Alternative
Exhibit 4 of 29

NORTH

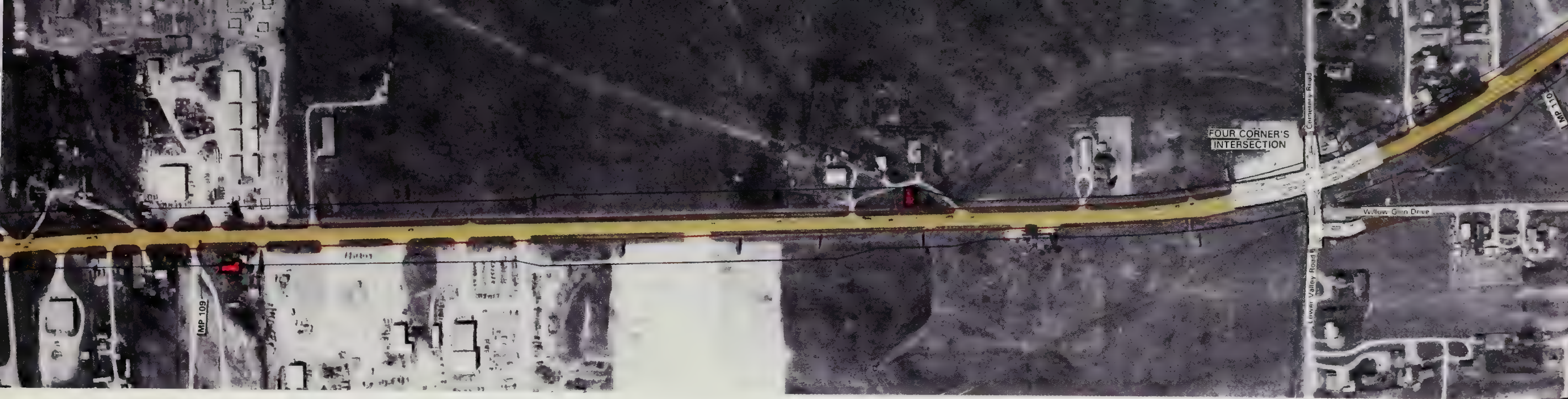
200 100 0 200

- Between Rocky Cliff Rd. and Airport Road: Five-lane.
- ROW wide enough to accommodate future raised median.
- Roadside landscaping.
- Separated bike-path where feasible.
- Alignment is centered on existing centerline from Rocky Cliff Rd. to north of Kalispell.
- Provisions for (future) bicycle and pedestrian underpass crossing at Ashley Creek.
- Ashley Creek bridge will be designed to accommodate a future bike path along shoulder.
- Improvements for Bypass/US 93 intersection shown on exhibit following these aerial photos.
- Special Design Concept:
  See figure preceding page.
- Alignment will require acquisition and likely displacement of business.
- Alignment will require acquisition and likely displacement of residence.

Preferred Alternative
Exhibit 5 of 29

NORTH

200 100 0 200



- ROW wide enough to accommodate future raised median.
- Roadside landscaping.
- Separated bike-path where feasible.
- Alignment is centered on existing centerline from **Rocky Cliff Rd. MP 117.**
- Alignment will require acquisition and likely displacement of residence.
- Alignment will require acquisition and likely displacement of residence.

Preferred Alternative
Exhibit 6 of 29

NORTH

200 100 0 200

- ROW wide enough to accommodate future raised median.
- Roadside landscaping.
- Separated bike-path where feasible.
- Alignment is centered on existing centerline.
- Urban section with curb & gutter north of Cemetery Rd. to Airport Rd.
- Alignment may require acquisition and possible displacement of structure.
- Alignment may require acquisition and possible displacement of structure.

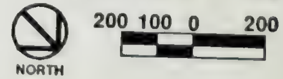
Preferred Alternative
Exhibit 7 of 29

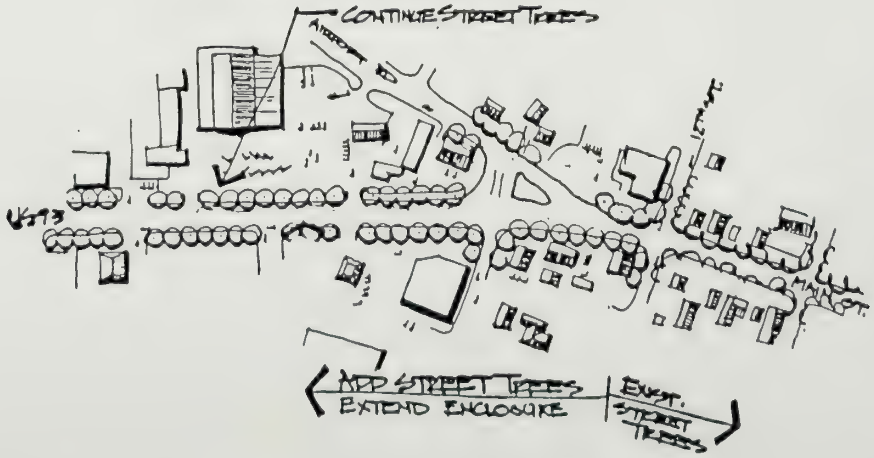
NORTH

200 100 0 200

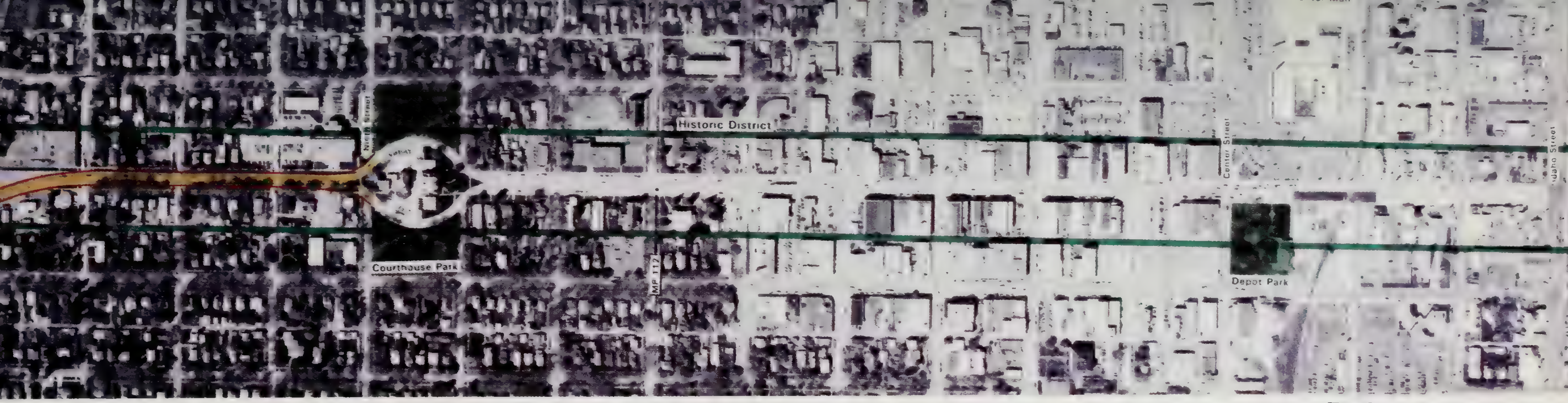
- Urban section with curb & gutter north of Cemetery Rd. to Airport Rd. Alignment is centered on existing centerline.
- Pedestrian crossing (flashing beacons) at ball fields.
- Reconstruct signal at 18th Street.
- New signal at Airport/13th Street when warranted.
- From Airport Rd. to Ninth Street, four 3.66m (12ft) through lanes are proposed.
- Special Design Concept: See figure this page.

Preferred Alternative
Exhibit 8 of 29





Special Design Concept: South Entry to Kalispell

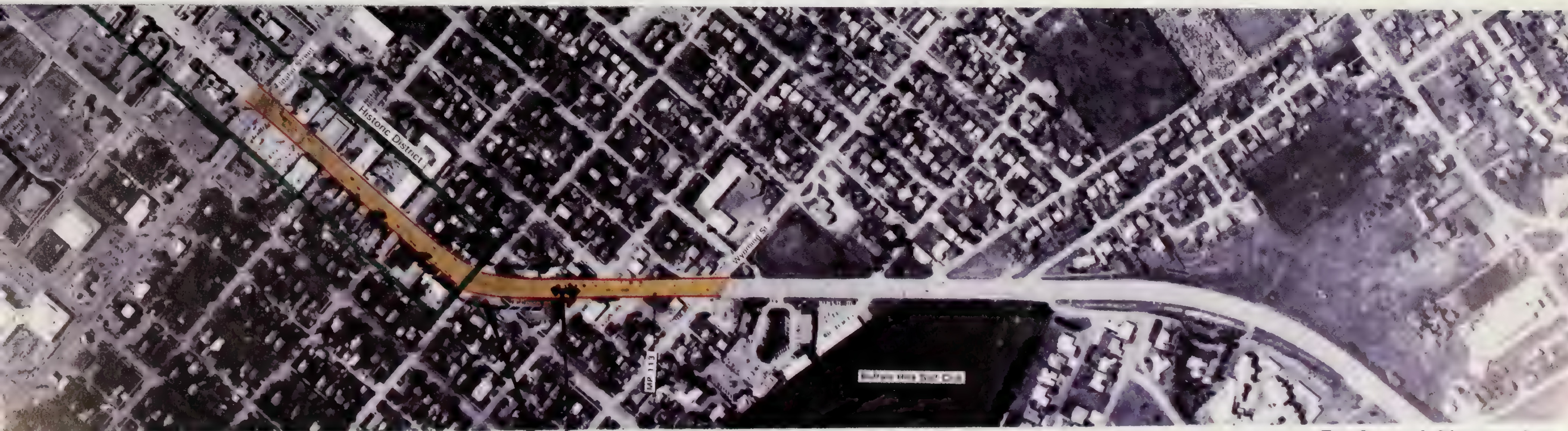


- From Airport Rd. to Ninth Street, four 3.66m (12ft) through lanes.
- On street parking would be removed for three blocks south of Ninth Street.
- Two northbound through lanes & two southbound through lanes around courthouse.
- **From Center St. to Idaho St., MDT plans improvement: not a part of this project.**

Preferred Alternative
Exhibit 9 of 29

NORTH

200 100 0 200



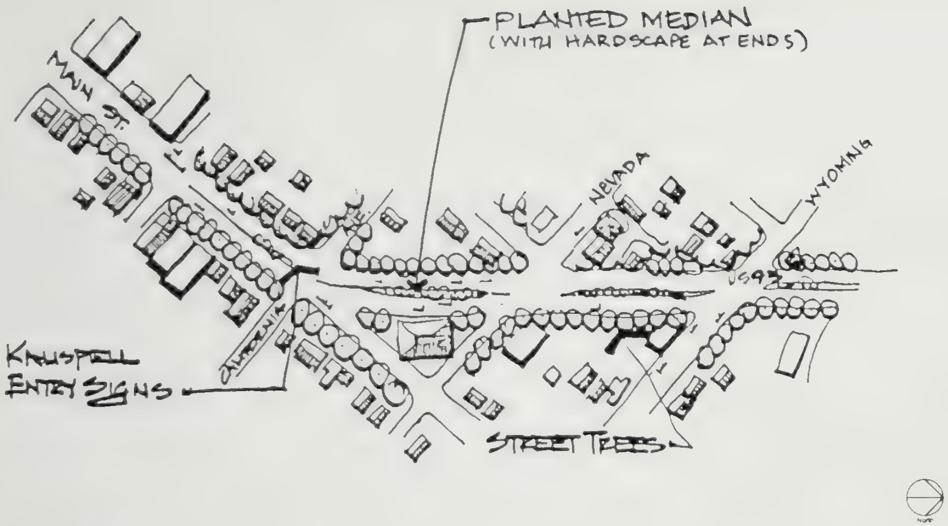
- From Idaho to Wyoming Street, reconstruct raised median to develop left-turn lanes.
- Parking will be eliminated to develop the new median.
- Pedestrian crossing north of Idaho to Wyoming at signals.

- Typical Median Reconstruction Idaho to Wyoming: See figure following page.
- Special Design Concept: see figure following page.
- No improvements recommended between Wyoming St. & Grandview.

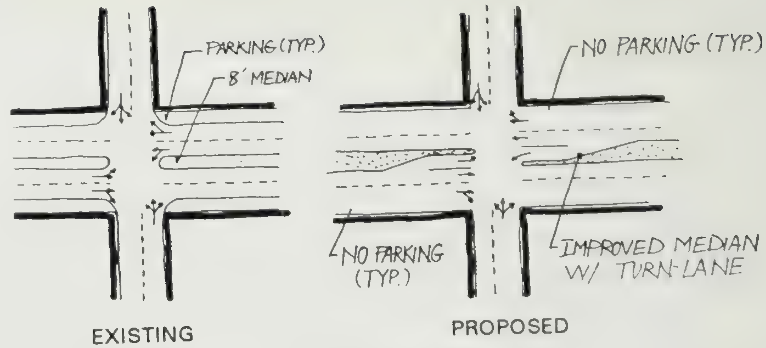
Preferred Alternative
Exhibit 10 of 29

NORTH

200 100 0 200



Special Design Concept: North Entry to Kalispell



- Typical Median Reconstruction Idaho to Wyoming: For location see preceding page. Preferred Alternative exhibit 10 of 29

Somers Whitefish Environmental Impact Statement

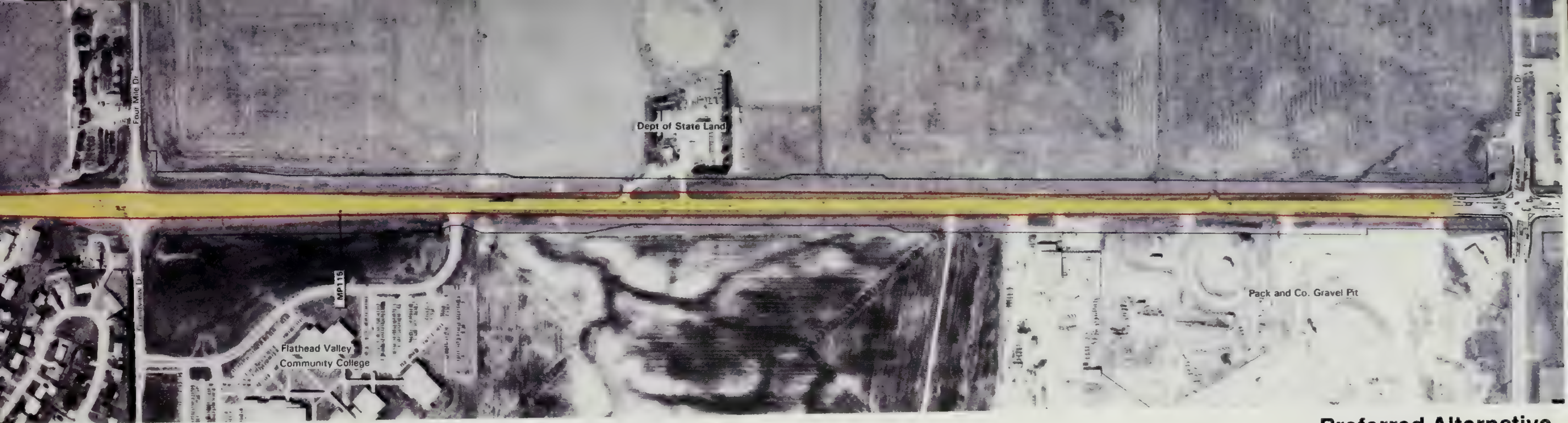
- Special Design Concept: For location see preceding page. Preferred Alternative exhibit 10 of 29

- No roadway improvements recommended between Wyoming St. & Grandview.

Preferred Alternative
Exhibit 11 of 29

200 100 0 200

NORTH



- From Grandview to MP 117: Five-lane.
- Alignment is centered on existing centerline from Grandview to MP 117.
- ROW wide enough to accommodate future raised median south of Reserve Dr.
- Roadside landscaping.
- Separated bike path where feasible.
- Pedestrian crosswalk at signal at FVCC.
- Future pedestrian underpass potential at FVCC.
- Park-n-Ride in the vicinity of FVCC.
- Improvements for Reserve Dr. intersection shown on exhibits following these aerial photos.

Preferred Alternative
Exhibit 12 of 29

NORTH

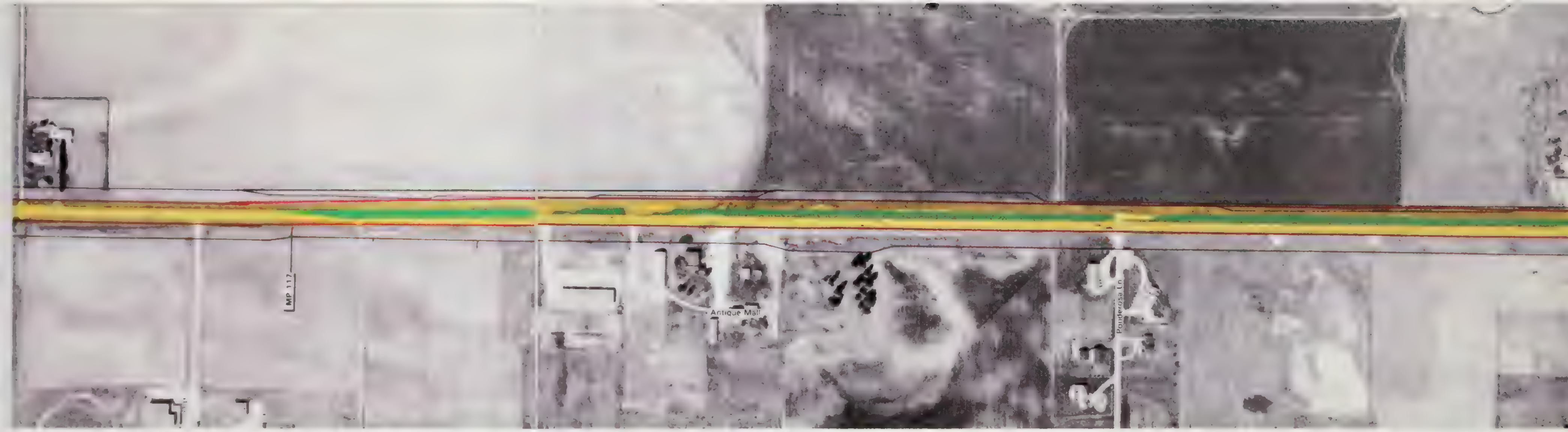
200 100 0 200

- Alignment is centered on existing centerline.
- Roadside landscaping.
- Separated bike path where feasible.
  Attached pedestrian sidewalk north of Stillwater River, separated bike-path may not be feasible.
- Provide a new bridge over the Stillwater River.
- Alignment will require acquisition and likely displacement of residence.
- Improvements for Reserve Dr. intersection shown on exhibits following these aerial photos.

Preferred Alternativ
Exhibit 13 of 2

NORTH

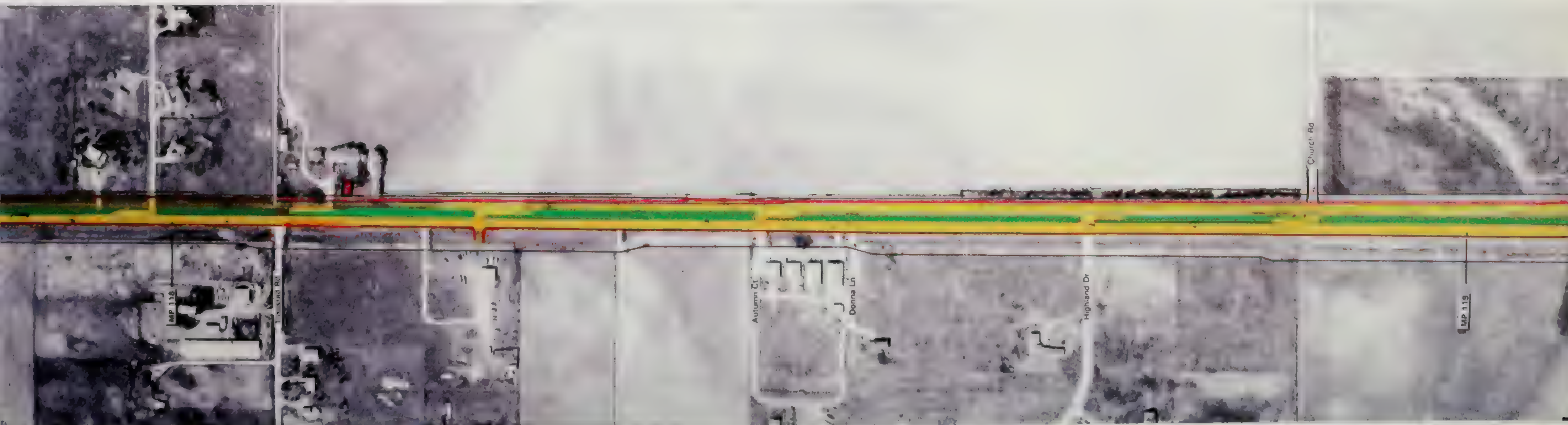
200 100 0 20



- Transition at MP 117 from 5-lane to 4-lane
- Alignment is offset to west of existing centerline: MP 117 to Schrade Rd.
- Retain existing access as much as possible.
- Accommodation of farm equipment needs.
- Separated bike path where feasible.

Preferred Alternative
Exhibit 14 of 29

200 100 0 200

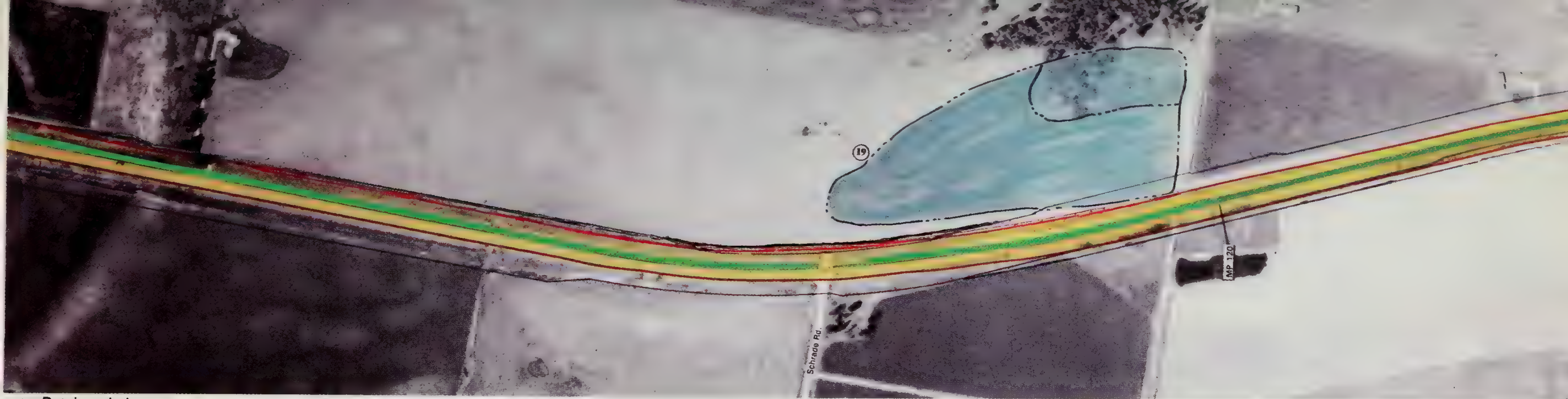


- Alignment is offset to west of existing centerline.
- Retain existing access as much as possible.
- Accommodation of farm equipment needs.
- Separated bike path where feasible.
- Alignment will require acquisition and likely displacement of Residence

Preferred Alternative
Exhibit 15 of 29

NORTH

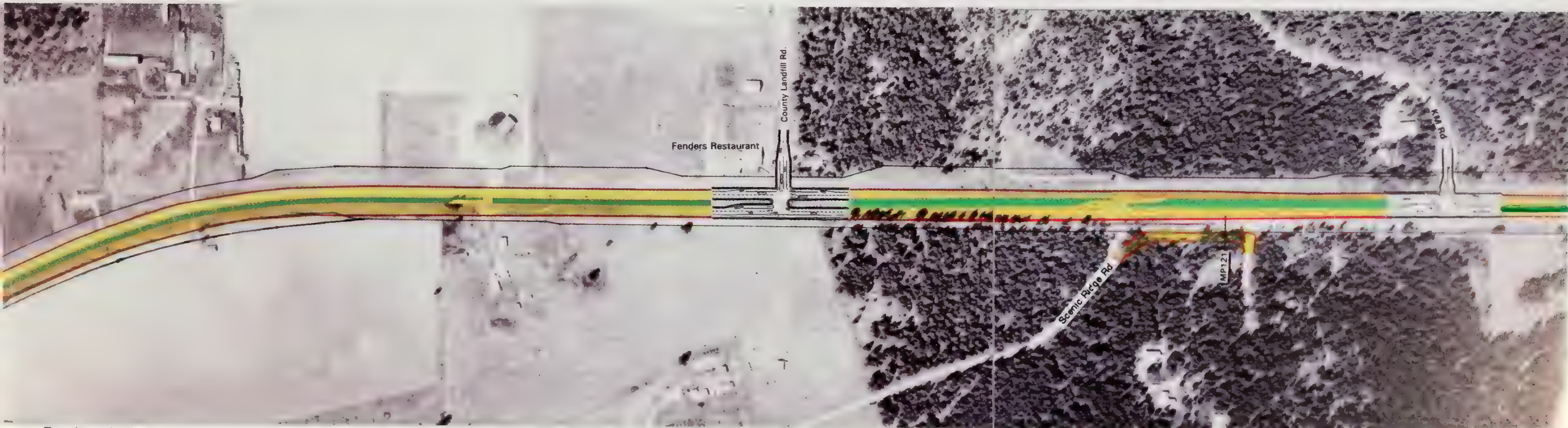
200 100 0 200



- Retain existing access as much as possible.
- Accommodation of farm equipment needs.
- Separated bike path where feasible.
- Alignment is offset to west of existing centerline: south of Schrade Rd.
- Alignment is offset to east of existing centerline: north of Schrade Rd to MP 124.

Preferred Alternative
Exhibit 16 of 29

NORTH
200 100 0 200



- Retain existing access as much as possible.
- Accommodation of farm equipment needs.
- Roadside landscaping.
- Separated bike path where feasible.
- Alignment is offset to the east from Schrade Road to KM Road.
- Transition at MP 121.2 from 4 lane to 5 lane.

Preferred Alternative
Exhibit 17 of 29

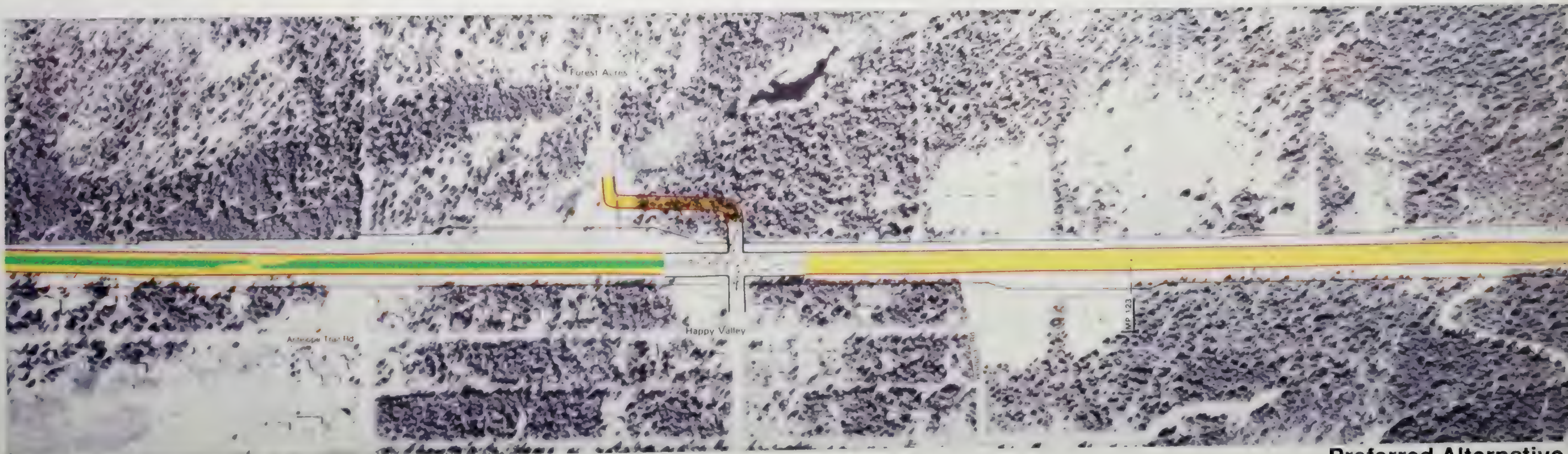
NORTH
200 100 0

- Four-lane with depressed median
- Extend Antelope Trail Rd. south to Bowdish Road.
- Use of Antelope Trail Rd. from Bowdish Road to Hodgson Road for local access & circulation
- Alignment is centered from KM Road to MP 123.5

Preferred Alternative
Exhibit 18 of 29

NORTH

200 100 0 200



- Retain existing access as much as possible.
- Separated bike path where feasible.
- Alignment is centered from KM Road to MP 123.5
- Use of Antelope Trail Rd. from Bowdish Road to Hodgson Road for local access & circulation
- In Happy Valley area, potential pedestrian activated signal with crosswalks
- Possible location for future raised median if needed for pedestrian crossing

Preferred Alternative
Exhibit 19 of 29

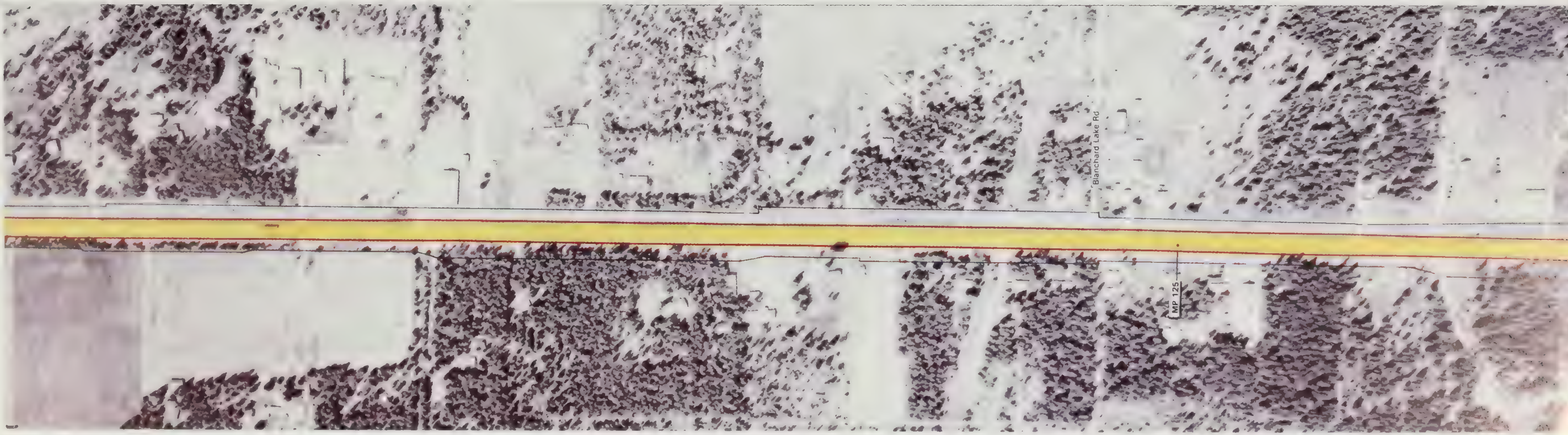
NORTH

200 100 0 200

- From Milepost 122.7 to MT 40, Five-lane with some driveway consolidation. Alignment is centered from MP 124 to end of project MP 133.
- Separated bike path where feasible.

Preferred Alternative
Exhibit 20 of 29

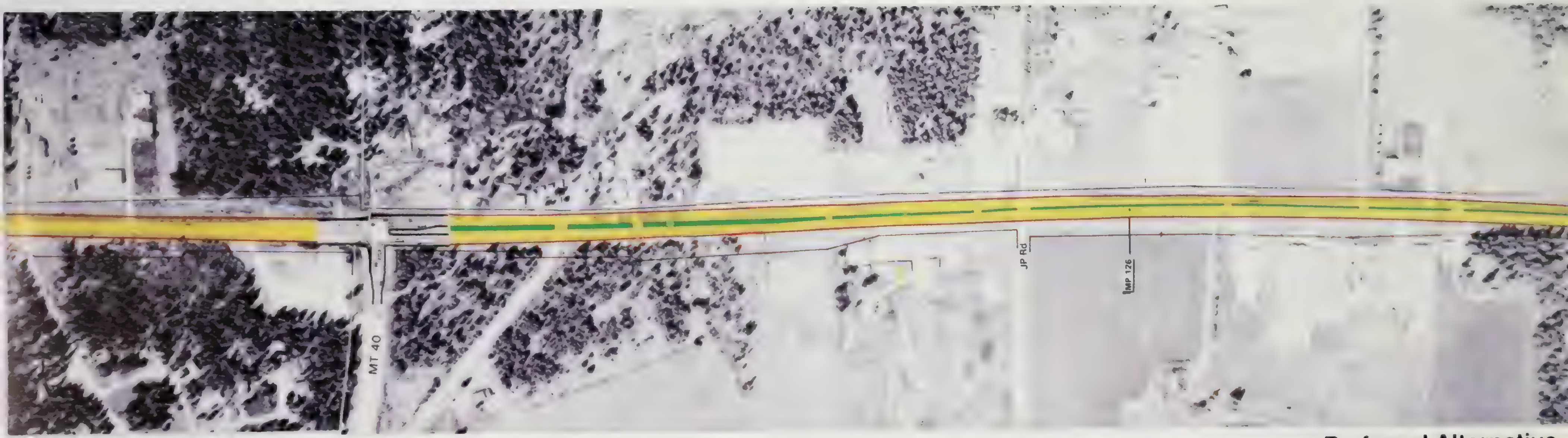
NORTH
200 100 0 200



- Alignment is centered.
- Separated bike path where feasible.

Preferred Alternative
Exhibit 21 of 2

NORTH
200 100 0

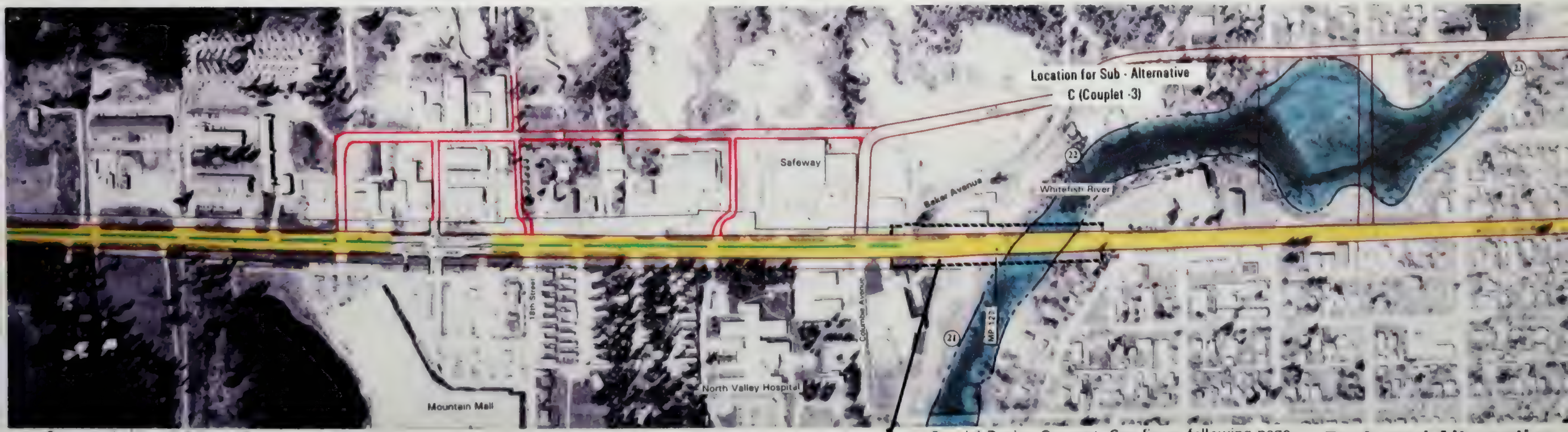


- MT 40 to Whitefish River; Median divided highway - when traffic volumes warrant
- Transition at MT 40 from 5 lane to 4 lane
- Alignment is centered
- Separated sidewalk/bike path
- Roadside landscaping
- Park-n-Ride in the vicinity of MT 40
- Median openings to accommodate existing accesses as appropriate.
- Improvements for MT 40 intersection shown on exhibit following these aerial photos.

Preferred Alternative
Exhibit 22 of 29

NORTH

200 100 0 200

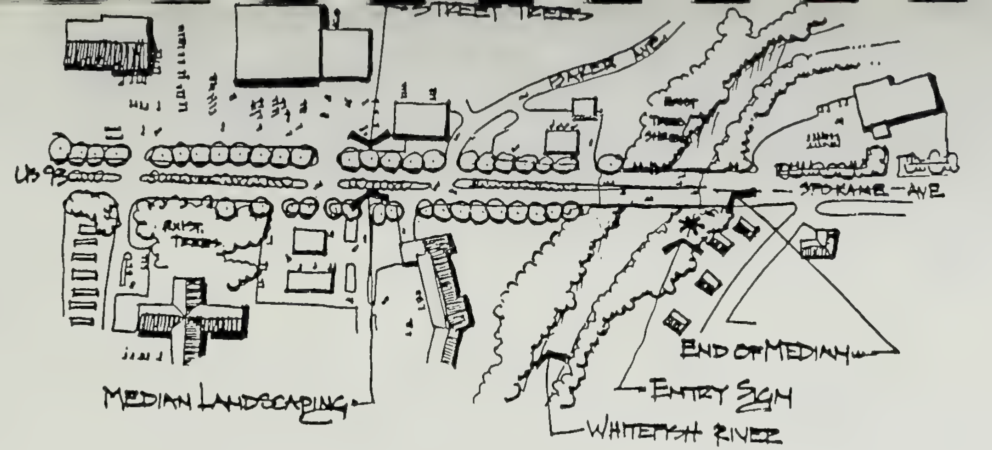


- Separated sidewalk/bike path.
- Roadside landscaping
- Provisions for (future) bicycle and pedestrian underpass at Whitefish River.
- Pedestrian activated crossing at future Mountain Mall & Columbia Ave. signals.
- Median openings to accommodate existing access as appropriate.
- Special Design Concept: See figure following page.
  - Possible relocated signal at 18th St. intersection.
  - New signal at Columbia intersection.
- For Whitefish area improvements between US 93 & Columbia to Second St. & Baker Ave. refer to Exh. C (Couplet-3).
- Improvements for 18th Street intersection shown on exhibit following these aerial photos.

Preferred Alternative
Exhibit 23 of 29

NORTH

200 100 0 200



Somers to Whitefish Environmental Impact Statement

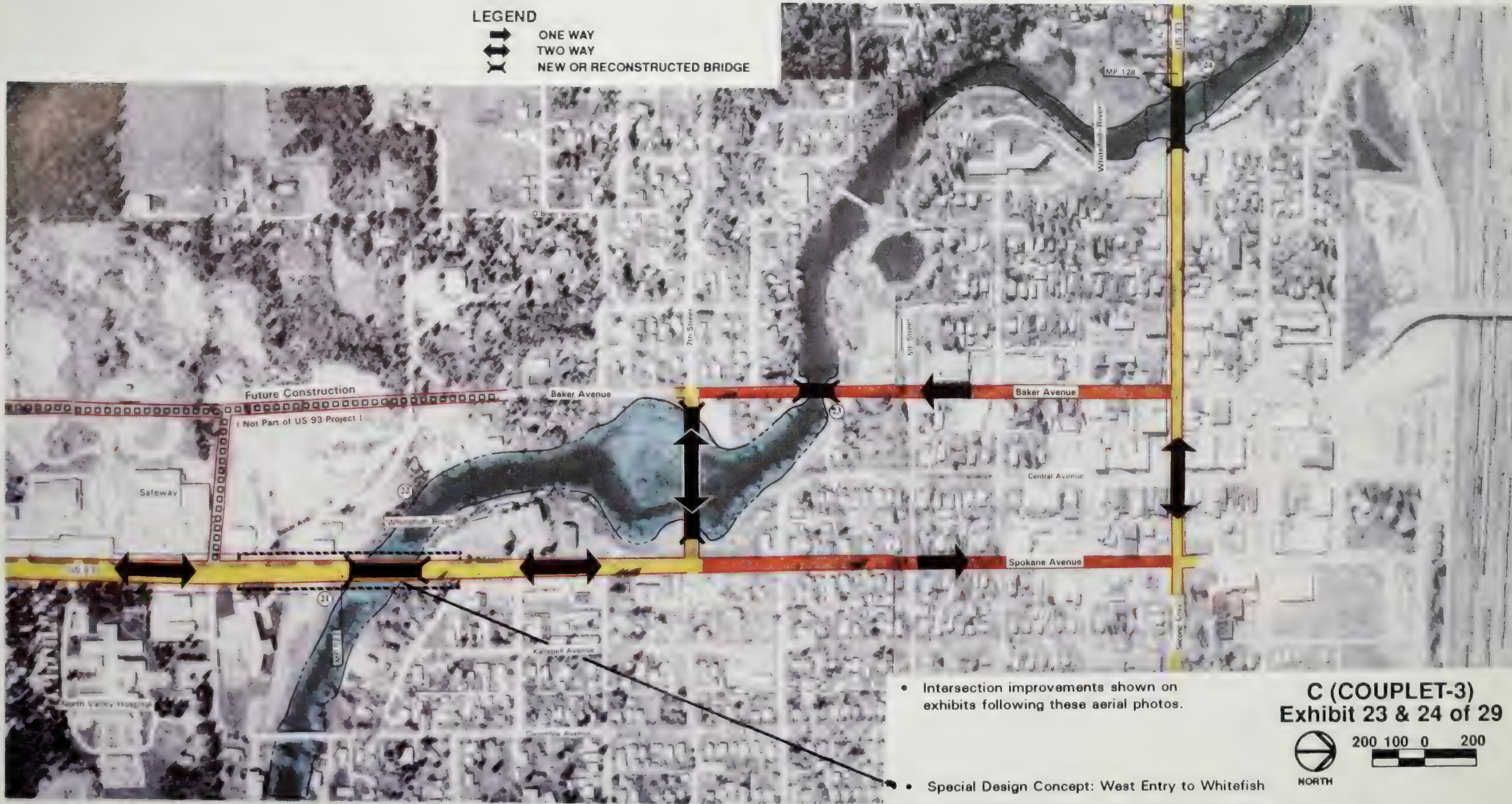
Special Design Concept: South Entry to Whitefish

- Special Design Concept: For location see preceding page. Preferred Alternative Exhibit 23 of 29.

- Urban section curb and gutter.
- Pedestrian crossings at all intersections in downtown area.
- Karrow Avenue to approximately MP 129 typical section includes two through lanes plus an 2.44m (8ft) shoulder separated by a raised median.
- Adequate left-turn pockets
- Separated sidewalk.
- Between the Whitefish River & Karrow Ave. typical section includes 3-lanes, curb & gutter, detached sidewalk & roadside landscaping.

- For Whitefish area improvements between US 93 & Columbia to Second St. & Baker Ave. refer to Exh. C (Couplet-3).

Preferred Alternative Exhibit 24 of 29



- Intersection improvements shown on exhibits following these aerial photos.

C (COUPLET-3)
Exhibit 23 & 24 of 29

NORTH

200 100 0 200

- Special Design Concept: West Entry to Whitefish

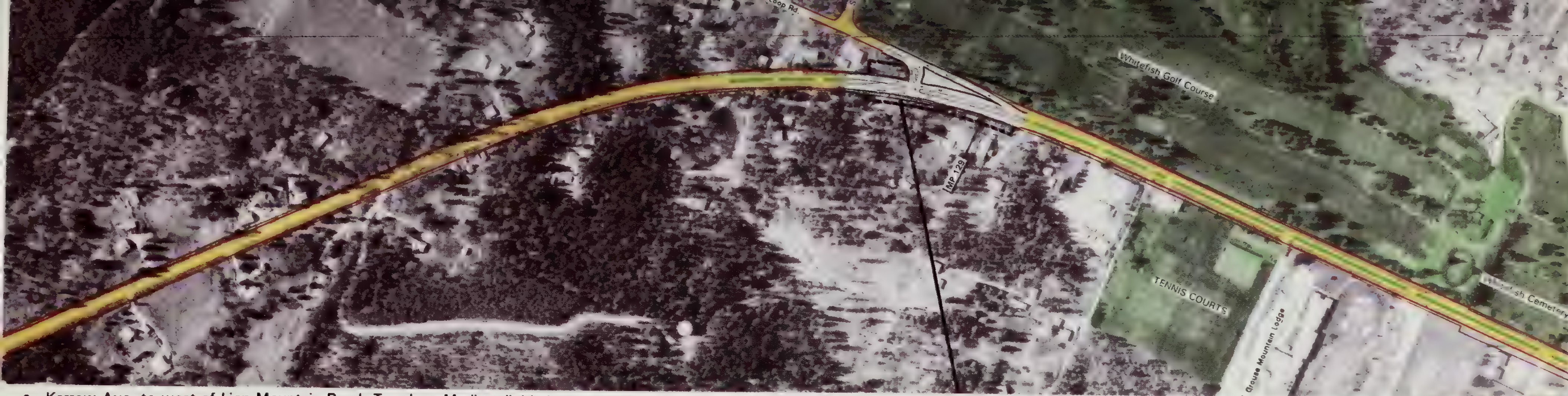
Whitefish River (south) to 7th St.; Four-lanes
- On-street parking removed.
- Attached sidewalk.
  Urban section curb and gutter.
- No new ROW required.
- Special Design Concept: South Entry to Whitefish.

7th Street Bridge, Spokane to Baker; Three-Lanes
- Two lanes eastbound (US 93 southbound)
  One lane westbound (local traffic)
- Sidewalk on one side only.
  Urban section curb and gutter.
- New signal at 7th Street and Spokane when warranted.
- New signal at 7th Street and Baker when warranted.

Baker & Spokane, from 7th Street to 2nd Street;
Alternative C(Couplet-3), Two-Lanes.
- Mitigation for Baker Street residences to control truck usage on Baker, such as signage to encourage truck diversion at Twin Bridges.
- Requires the construction of a new bridge on 7th Avenue across the Whitefish River and adjacent wetland between Baker and Spokane.
- Requires additional right-of-way at the intersection of Baker & 7th St.
- Upgrade pavement sections and vertical profile on Baker St.
  Urban section curb and gutter.

2nd Street, Spokane to Whitefish River (west); Three-lanes
- Spokane to Baker: two lanes westbound, one lane eastbound, on-street parking on south side of 2nd where appropriate.
- Baker to Whitefish River (west): one lane eastbound, one lane westbound, center turn lane, some on street parking on both sides of 2nd St.
- Additional right-of-way at the intersection of 2nd & Baker
  Urban section curb and gutter.
- Upgraded signal at 2nd Street and Spokane.
- Upgraded signal at 2nd Street and Baker.

Whitefish River (west) to Karrow Avenue: Three-lanes
- Urban section curb and gutter.
- Detached sidewalk (within existing ROW).
- Roadside landscaping where possible.
- No additional ROW required.



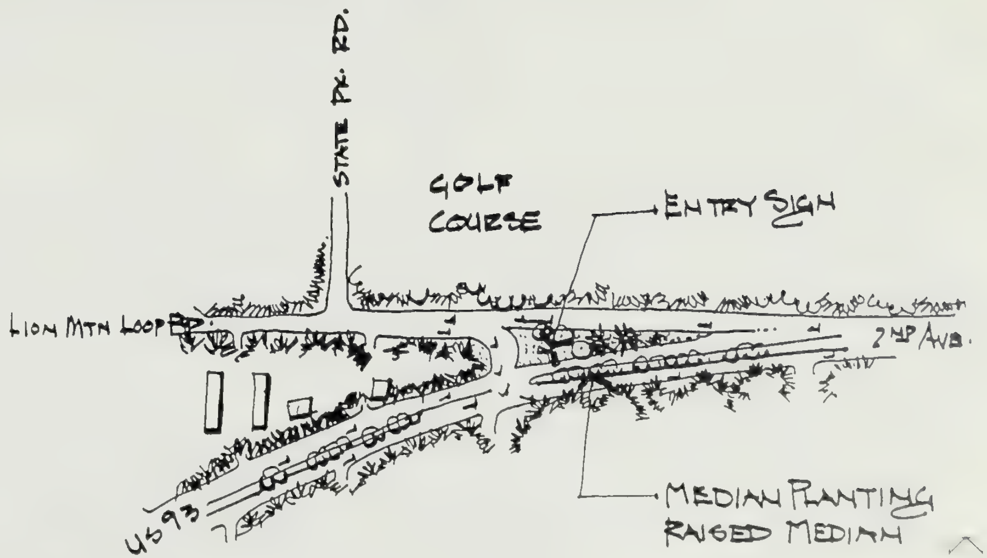
- Karrow Ave. to west of Lion Mountain Road; Two-lane Median divided.
- Adequate left-turn pockets
- Separated sidewalk east of Lion Mtn. Loop Rd.
- Truck climbing lanes are provided for westbound traffic from MP 129.0 to MP 129.9 with 2.44m (8ft) shoulders.
- Separated bike path where possible.
- Alignment is centered on existing centerline from Karrow Ave. to end of project MP 133.

- Special Design Concept: See figure this page.
- Extend existing Pedestrian crossing underpass at Whitefish Golf Course.
- Karrow Avenue to approximately MP 129 typical section includes two through lanes plus an 2.44m (8ft) shoulder separated by a raised median.

Preferred Alternative
Exhibit 25 of 29

NORTH

200 100 0 200



Somers to Whitefish Environmental Impact Statement

Special Design Concept: West Entry to Whitefish

WEST OF WHITEFISH,
from Karrow Avenue to the west project limits.

- Alignment is centered on existing centerline.
- Separated bike path where possible

- Truck climbing lanes are provided for westbound traffic from MP 129.0 to MP 129.9 with 2.44m (8ft) shoulders.
- Truck climbing lanes are provided for eastbound traffic from MP 130.6 to MP 130.2 with 2.44m (8ft) shoulders.
- The curves at MP 130.2 have been flattened to improve the design speed.

Preferred Alternative
Exhibit 26 of 29

NORTH

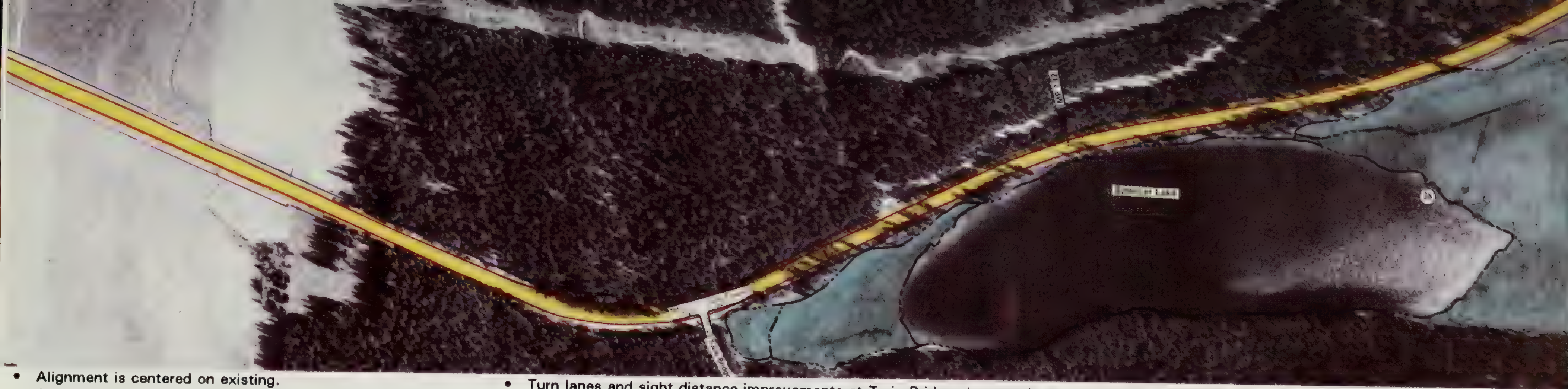
200 100 0 200

- MP 130.6 to MP 133; Two-lane with 2.44m (8ft) shoulders.
- Alignment is centered.
- Separated bike path where possible.

Preferred Alternative
Exhibit 27 of 29

NORTH

200 100 0 200

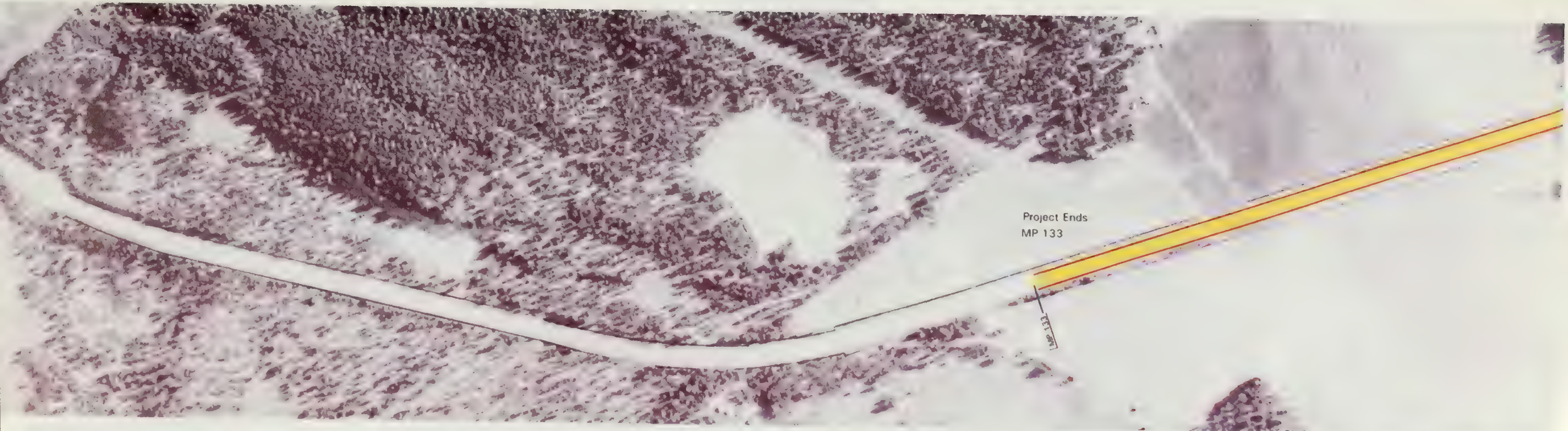


- Alignment is centered on existing.
- Separated bike path where possible.
- MP 130.6 to MP 133; Two-lane with 2.44m (8ft) shoulders.
- The curves at MP 132.2 has been flattened to improve the design speed.
- Additional Right-of-Way required.
- Turn lanes and sight distance improvements at Twin Bridges intersection.
- Just east of the Twin Bridges Turn-off vertical alignment improvements planned.
- Shoulder and clear zone variations near Spencer Lake.
- Realignment of Antler Ridge Road is likely.

Preferred Alternative
Exhibit 28 of 29

NORTH

200 100 0 200



- MP 130.6 to MP 133; Two-lane with 2.44m (8ft) shoulders.
- Alignment is centered on existing centerline from Karrow Ave. to end of project MP 133.

Preferred Alternative
Exhibit 29 of 29

NORTH

200 100 0

KALISPELL BYPASS

GENERAL NOTES:

These drawings (exhibits 1 of 9 thr 9 of 9) show right-of-way needed for possible future depressed median.

An Alternative location is shown which was considered and is not being advanced.

Route signing indicating the new roadway as "Alternative Route US 93".

Dashed lines for the median indicates the location of a possible future depressed median and or turn-lane.

PEDESTRIAN AND BICYCLE FACILITIES:

Pedestrian and bicycle facilities along a separate 2.44m (8ft) pedestrian & bicycle lane unless noted.

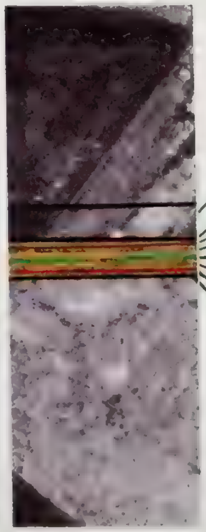
NOTE: All dimensions are in meters(feet).

LEGEND :

EXISTING WETLANDS

PARKS

POSSIBLE DISPLACEMENT OF BUSINESS / RESIDENCE



ALTERNATIVE LOCATION

PROPOSED ROW (black)

PROPOSED EDGE OF PAVEMENT (red)

PROPOSED PAVEMENT (yellow)

POSSIBLE Future Depressed MEDIAN/ & or TURN-LANE (dashed green)

PROPOSED PAVEMENT (yellow)

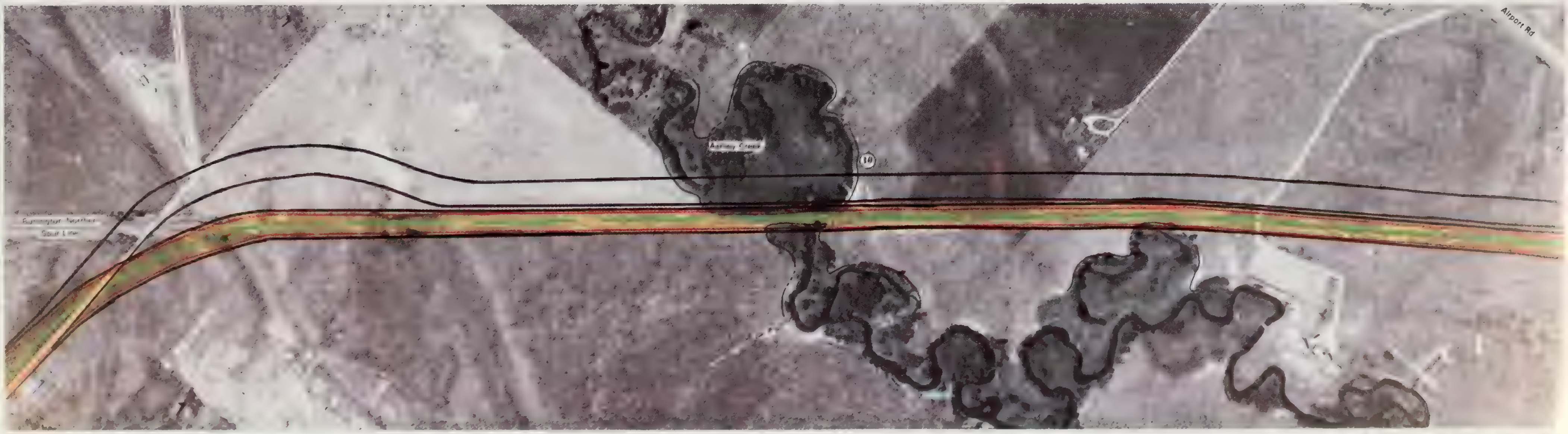
PROPOSED EDGE OF PAVEMENT (red)

PROPOSED ROW (black)

- South Kalispell Bypass intersection located south of Snowline Rd.
- New signal at South Kalispell Bypass intersection.
- ROW allows for future depressed median.
- Construction of four lanes only (no median) south of US 2 with center turn lane at major intersections.
- Separate bike path.
- Proposed Bypass/US 93 intersection shown on exhibit following these aerial photos.

Kalispell Bypass
Exhibit 1of 9

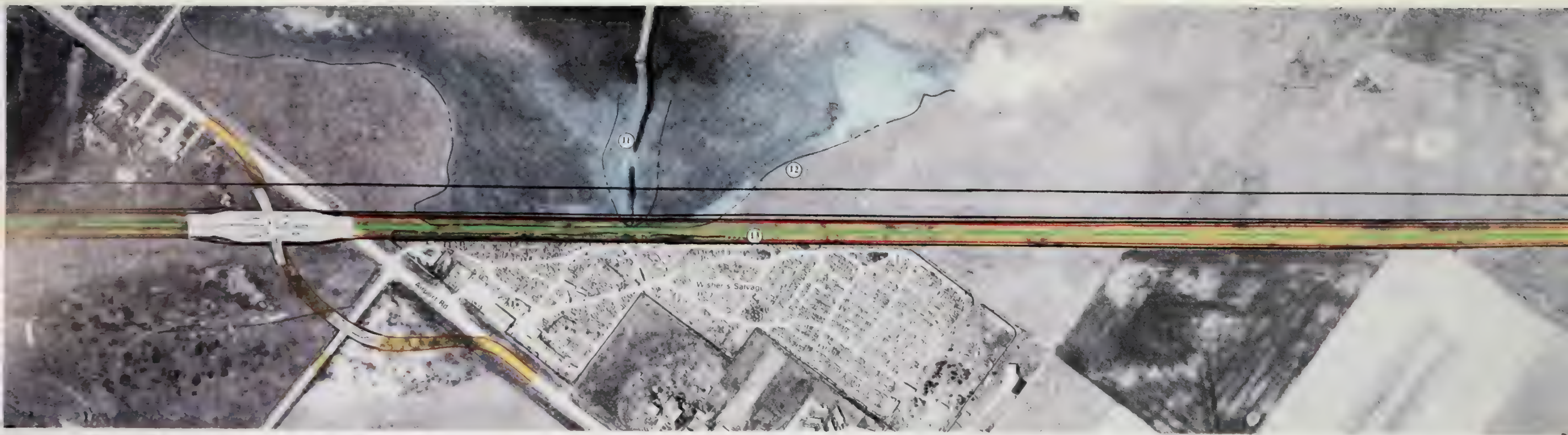
NORTH 200 100 0 200



- ROW allows for future depressed median.
- Construction of four lanes only (no median) south of US 2 with center turn lane at major intersections.
- Separate bike path.

Kalispell Bypass
Exhibit 2 of 9

NORTH 200 100 0



- Airport Road will have major cross-street realignment.
- ROW allows for future depressed median.
- Construction of four lanes only (no median) south of US 2 with center turn lane at major intersections.
- Separate bike path.

Kalispell Bypass
Exhibit 3 of 9

NORTH 200 100 0 200

- Sunnyside Drive will have major cross-street realignment.
- ROW allows for future depressed median.
- Construction of four lanes only (no median) south of US 2 with center turn lane at major intersections.
- Separate bike path.
- Alignment will require acquisition and likely displacement of business.
  Note: This is located under intersection improvement.
- Alignment will require acquisition and likely displacement of business.
  Note this is located under intersection improvement.
- Alignment will require acquisition and likely displacement of structures.

Kalispell Bypass
Exhibit 4 of 9

NORTH 200 100 0 200

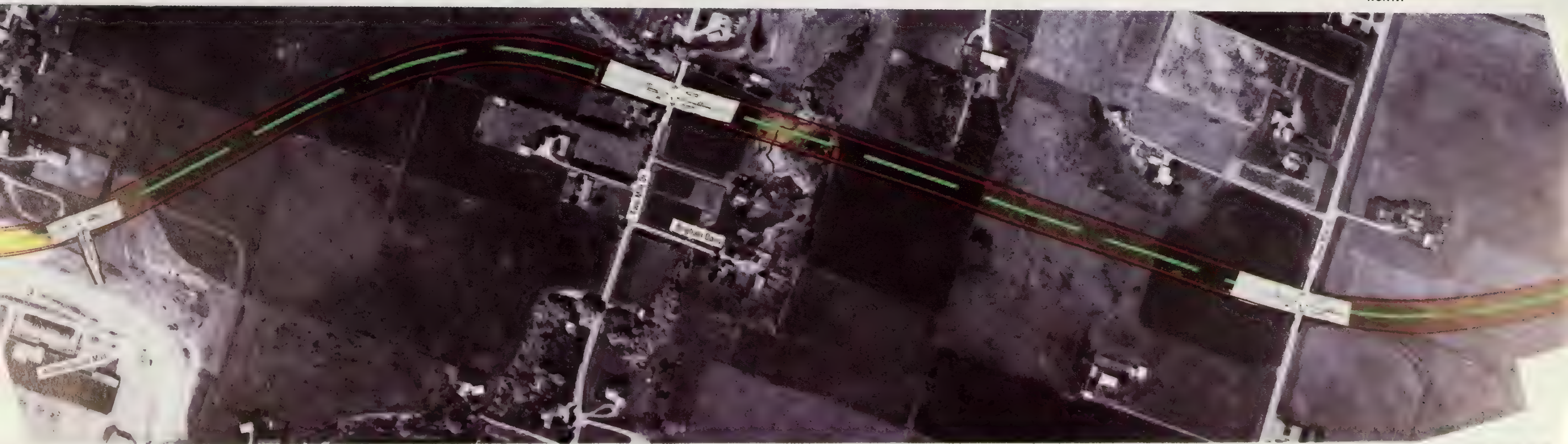
- Relocate intersections of Appleway Dr. & 2nd St. West with US 2.
- Construction of four lanes only (no median) south of US 2 with center turn lane at major intersections.
- New signal at US 2 intersection when warranted.
- Separate bike path.
- North of US 2, either turn-lane or median, but ROW allows for future depressed median.

- At-grade crossing of rail spur controlled by flashing signal lights.
- Bikepath on railroad to be aligned along the south side of creek.
- Bikepath to be grade separated under Bypass on south side of US 2 intersection.

- Alignment will require acquisition and likely displacement of structures.
- Improvements to US 2 intersection shown on exhibit following these aerial photos.

Kalispell Bypass
Exhibit 5 of 9

NORTH 200 100 0 200



- North of US 2, either turn-lane or median, but ROW allows for future depressed median.
- Separate bike path.

- Alignment will require acquisition and likely displacement of residence.
  Note: This is located under intersection improvement.
- Alignment will require acquisition and likely displacement of residence.
  Note: This is located under intersection improvement.

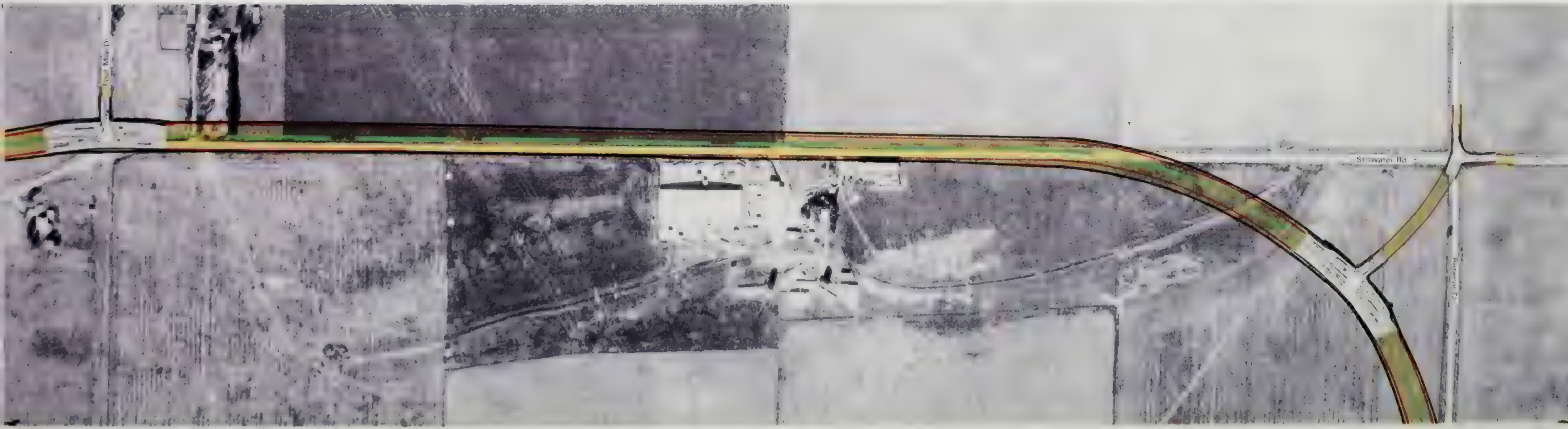
- Alignment will require acquisition and likely displacement of structure.

Kalispell Bypass
Exhibit 6 of 9

NORTH 200 100 0 200

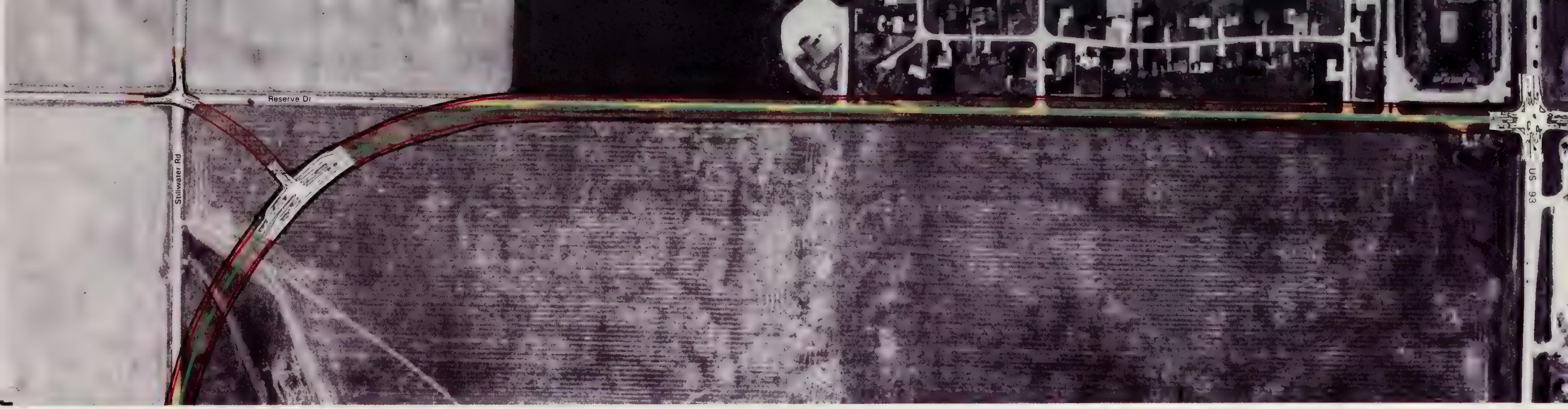
Kalispell Bypass
Exhibit 7 of 9

- North of US 2, either turn-lane or median, but ROW allows for future depressed median.
- Separate bike path.



Kalispell Bypass
Exhibit 8 of 9

- Reserve Drive and Stillwater Road will have major cross-street realignment.
- North of US 2, either turn-lane or median, but ROW allows for future depressed median.
- Separate bike path.



- Reserve Drive and Stillwater Road will have major cross-street realignment.
- North of US 2, either turn-lane or median, but ROW allows for future depressed median.
- Separate bike path.

Kalispell Bypass
Exhibit 9 of 9

NORTH

200 100 0 200

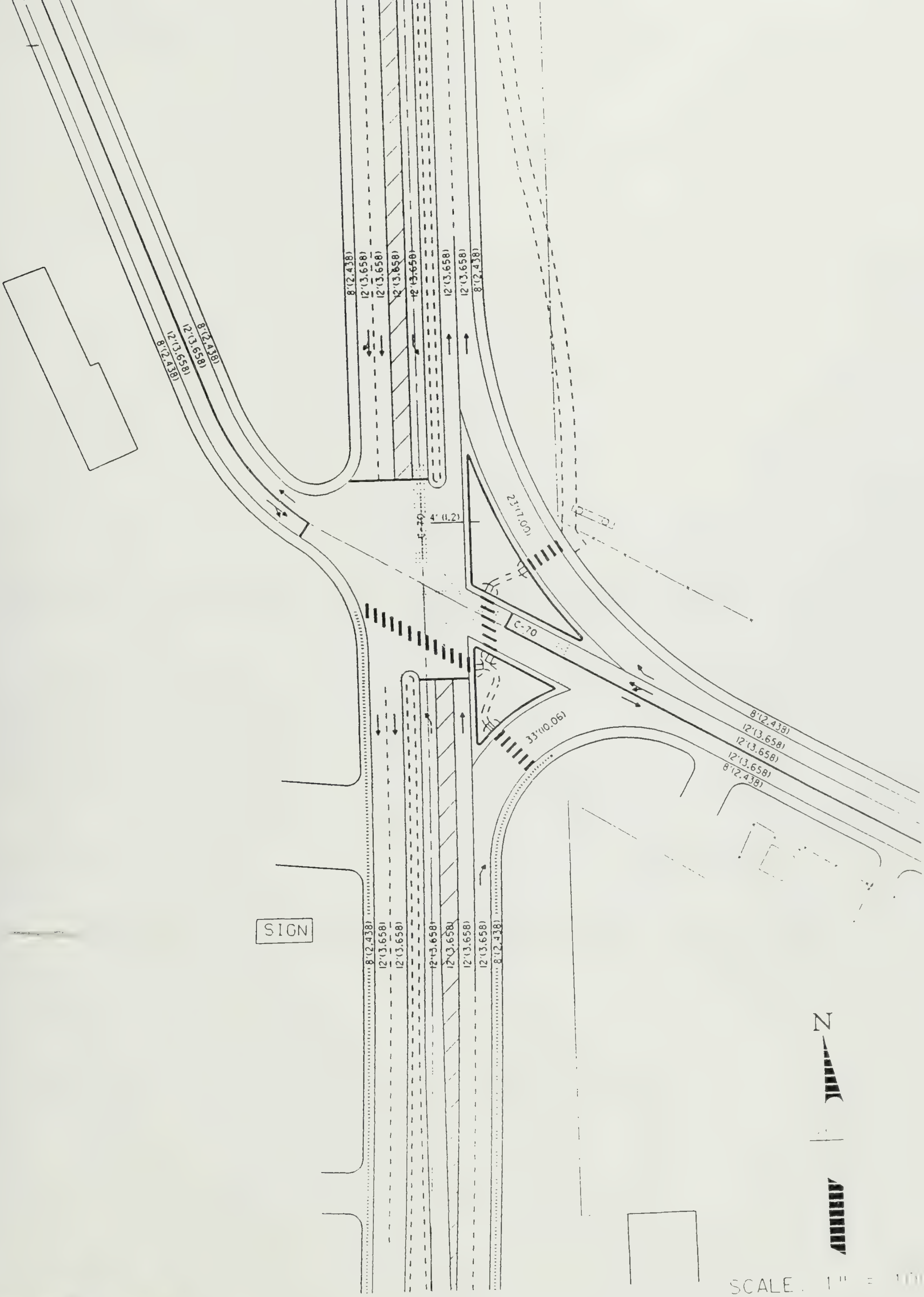
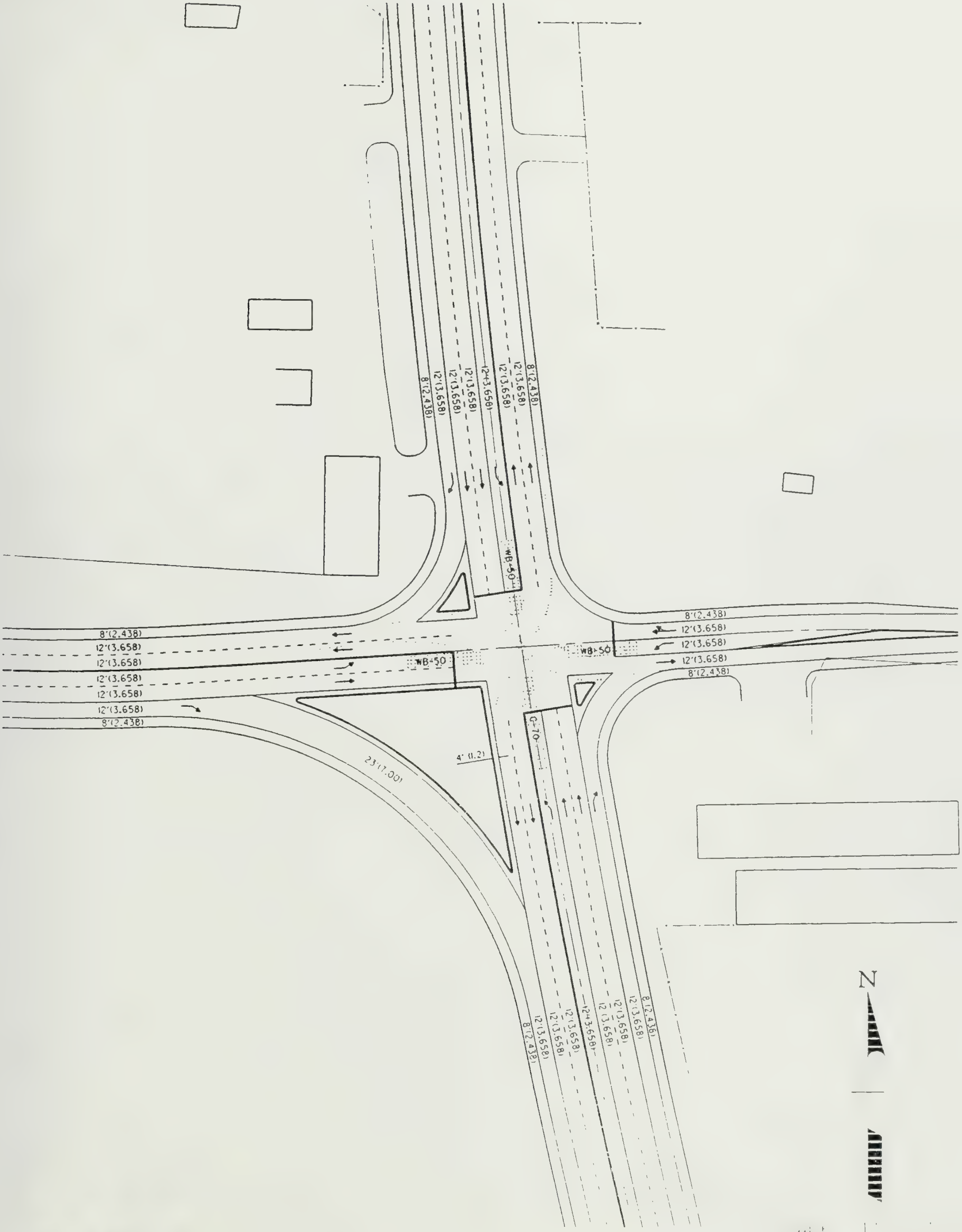


Exhibit 10

MT 82 / US 93

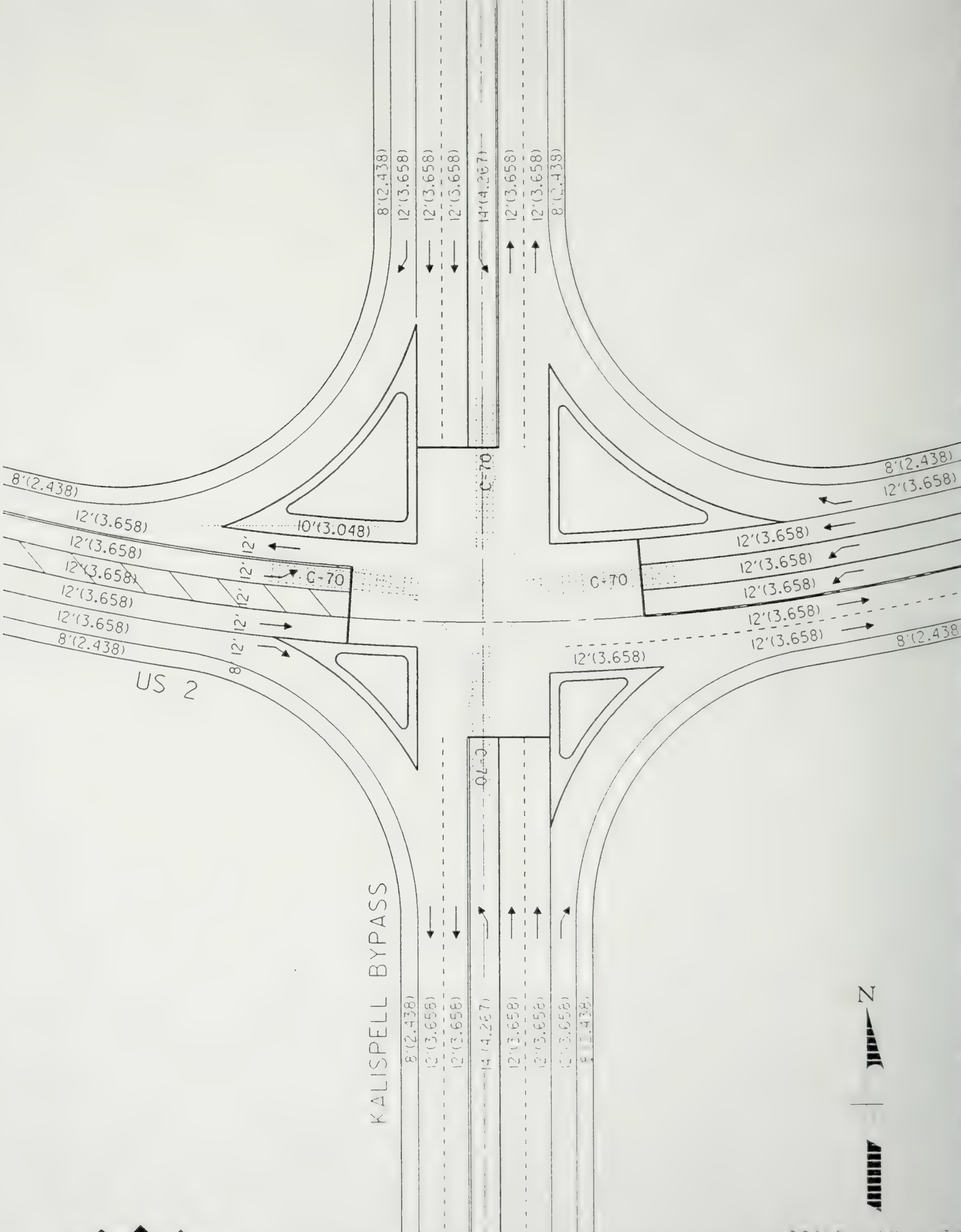
Somers to Whitefish
Environmental Impact Statement



Somers to Whitefish
Environmental Impact Statement

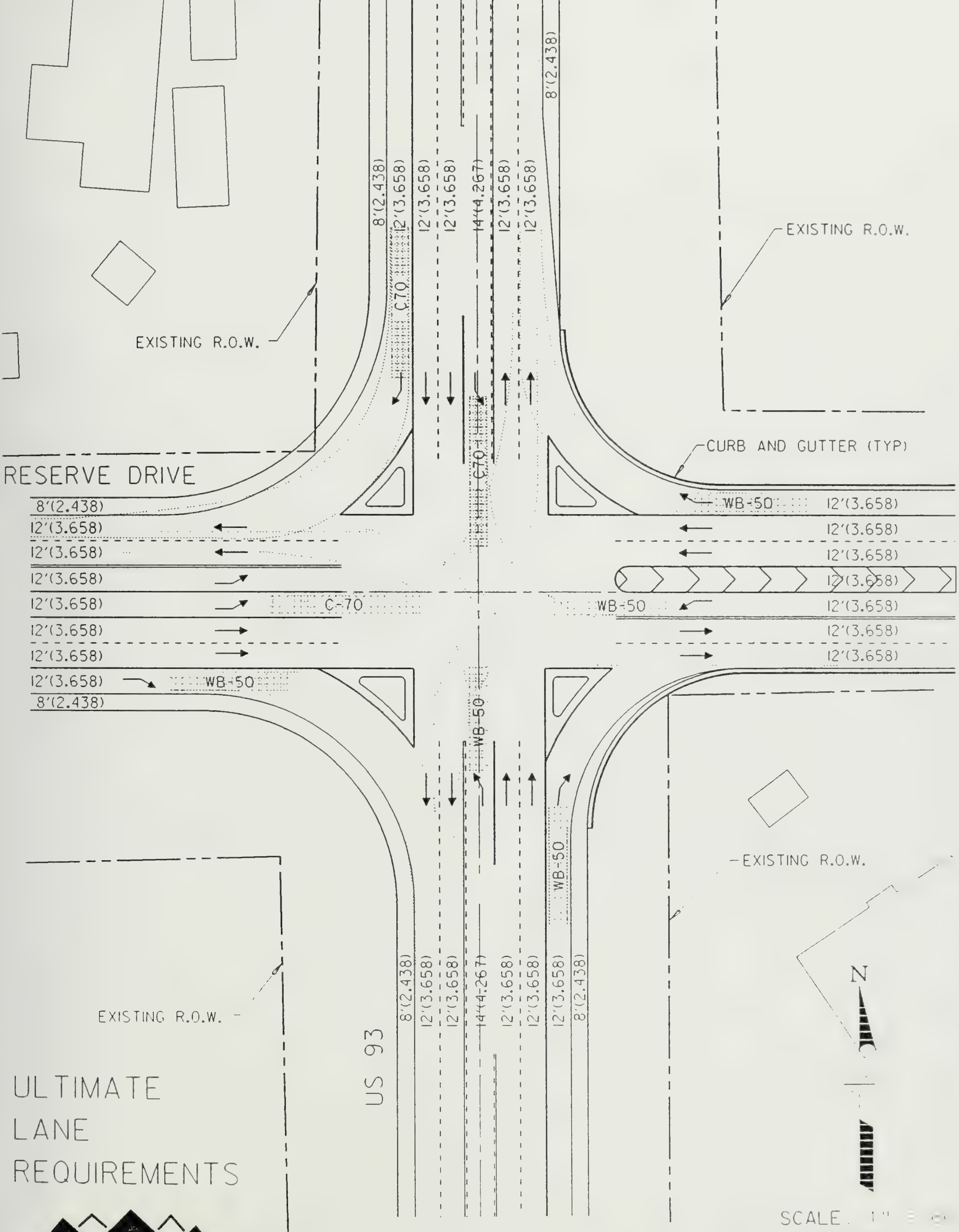
Exhibit 11

South Bypass Intersection / US 93



Somers to Whitefish
Environmental Impact Statement

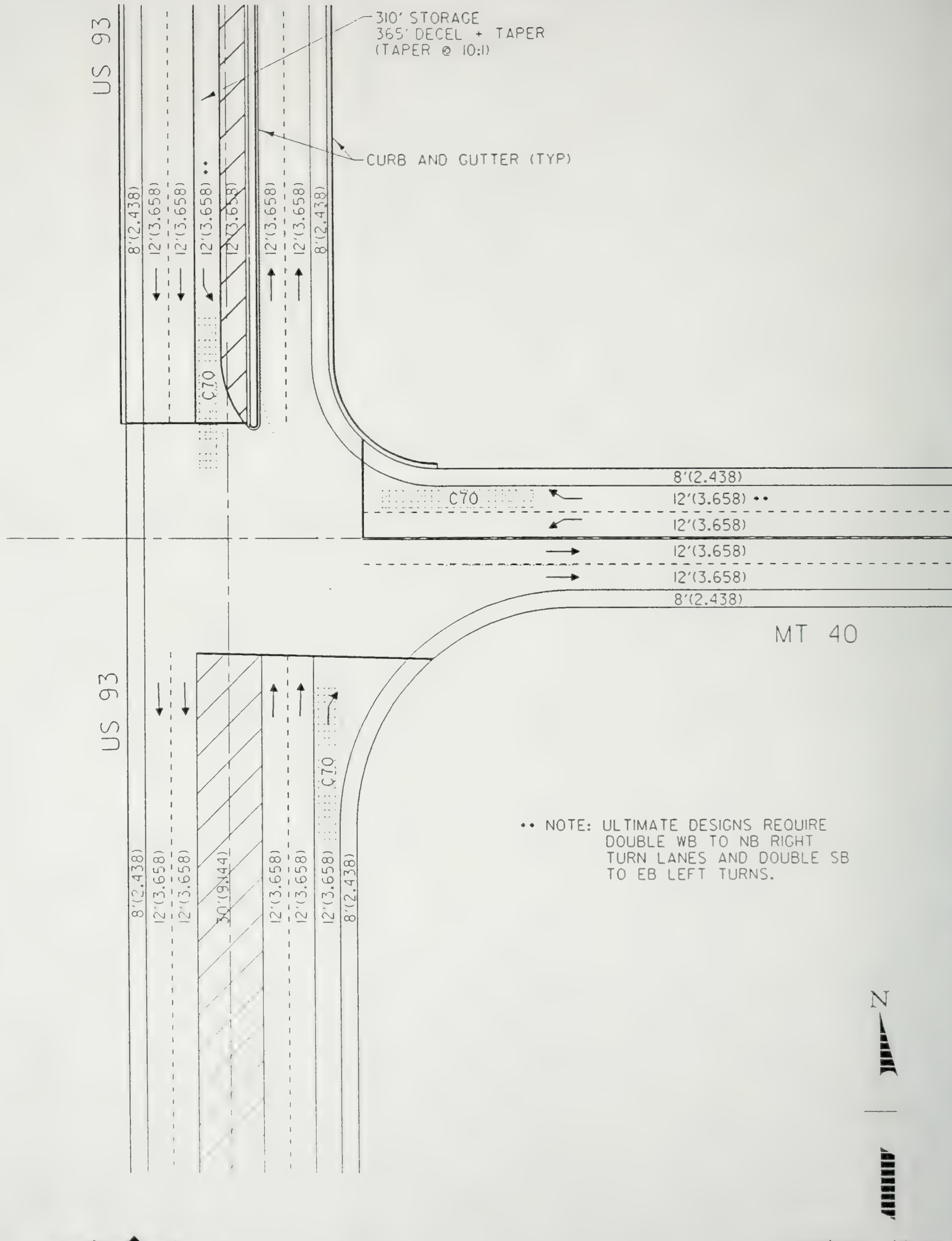
Exhibit 12
Kalispell Bypass / US 2



Somers to Whitefish
Environmental Impact Statement

Exhibit 13

Reserve Drive / US 93



Somers to Whitefish Environmental Impact Statement

Exhibit 14

MT 40 / US 93

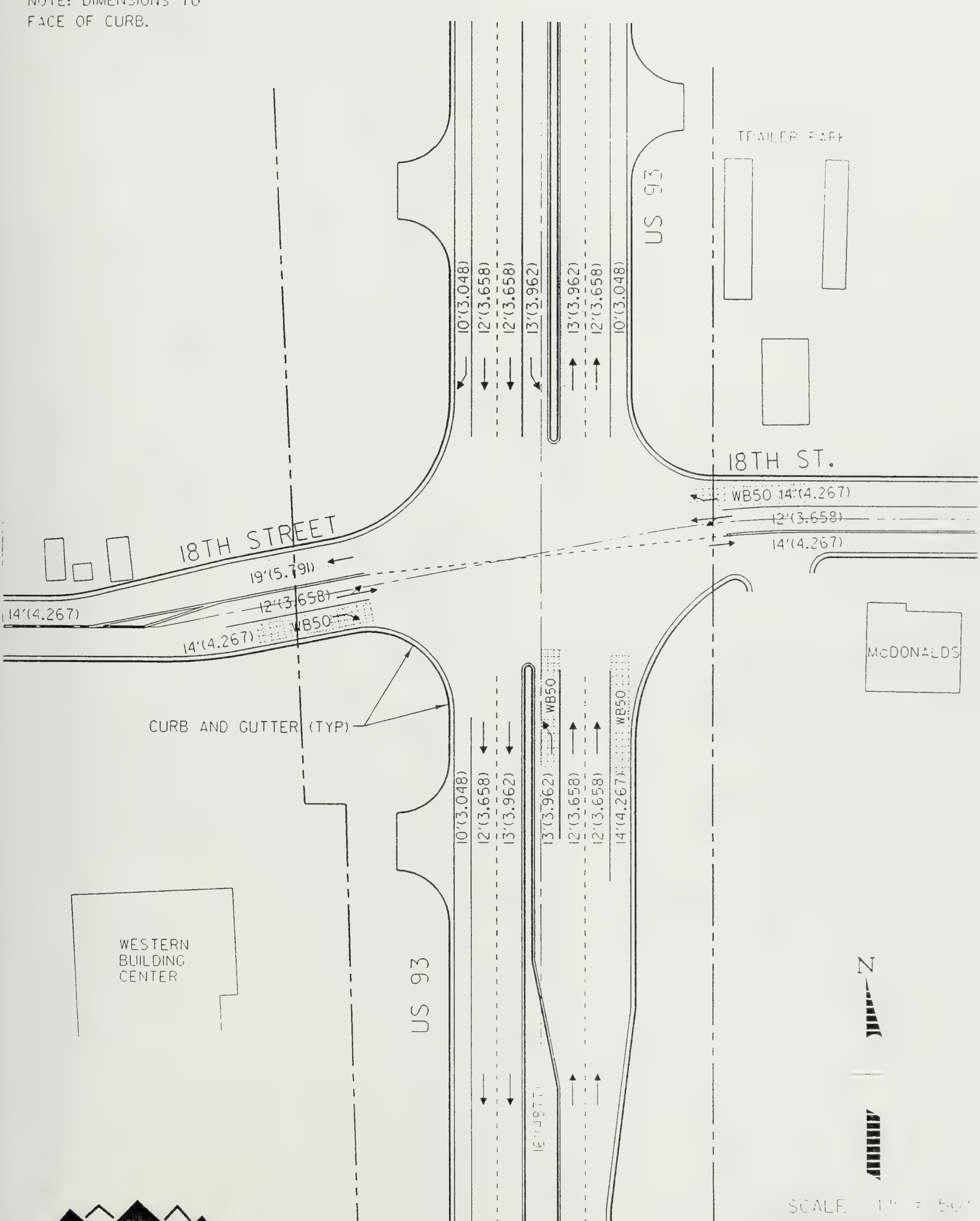
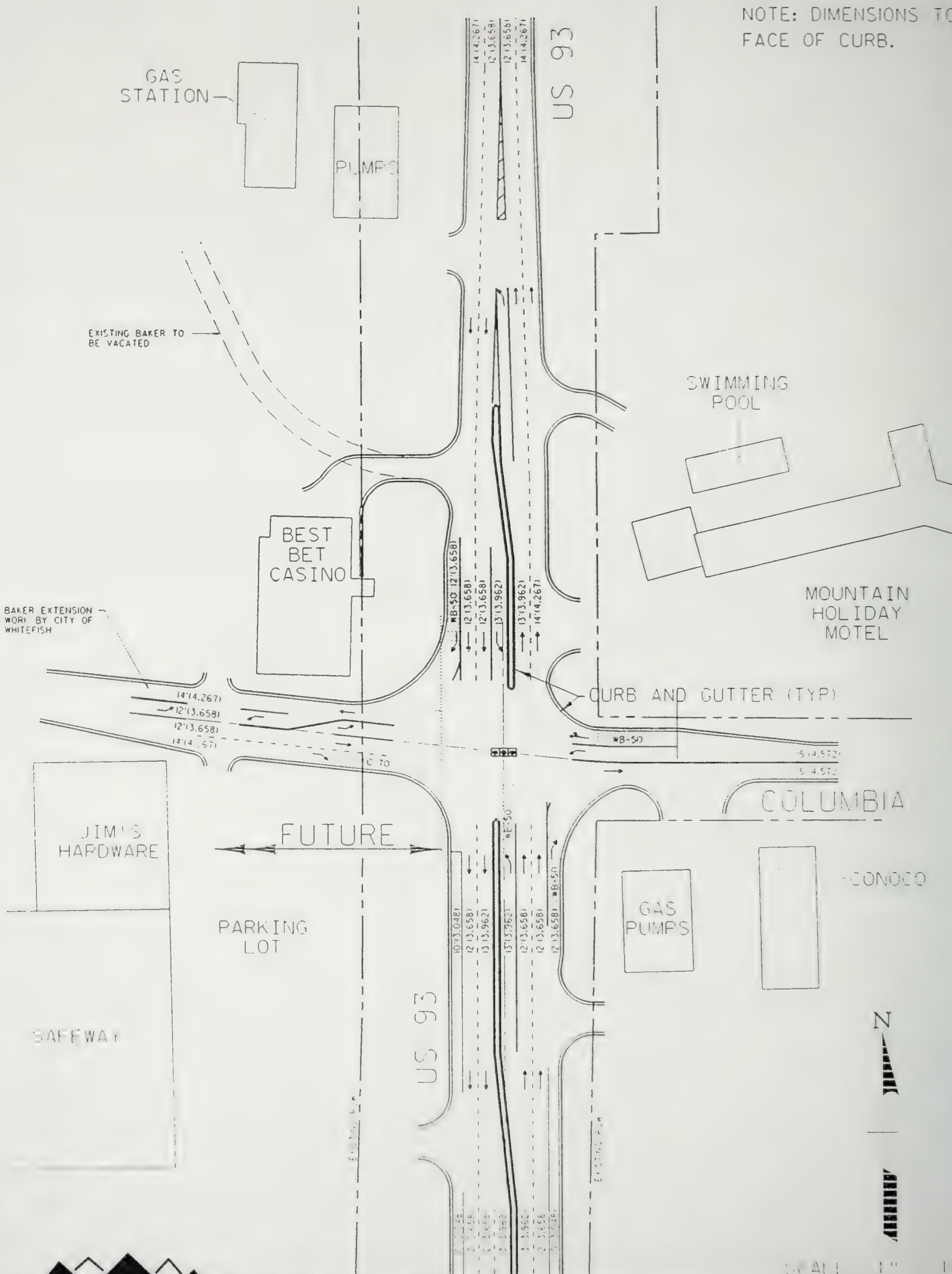


Exhibit 15

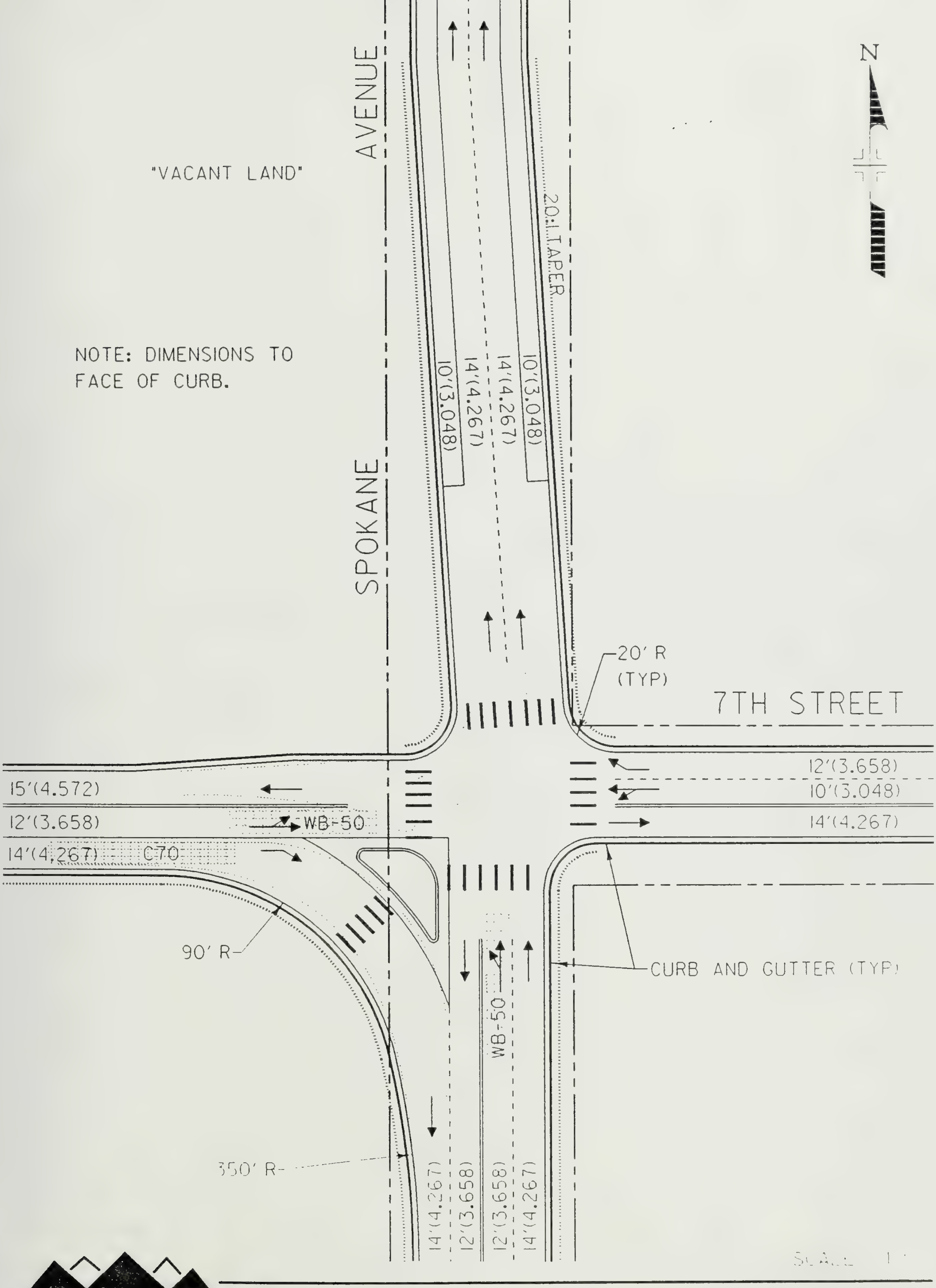
18th Street / US 93



Somers to Whitefish Environmental Impact Statement

Exhibit 16

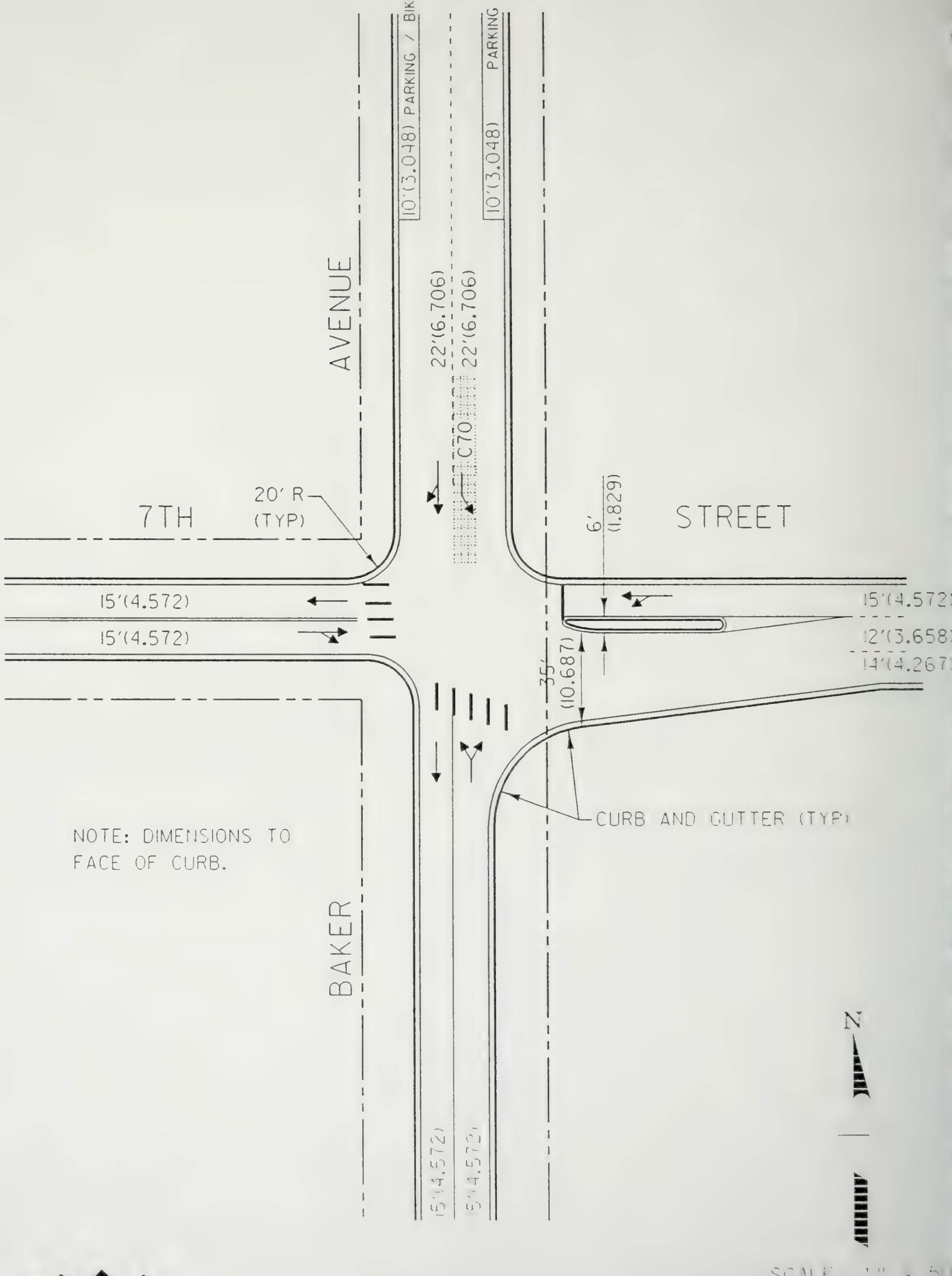
Columbia / US 93



Somers to Whitefish
Environmental Impact Statement

Exhibit 17

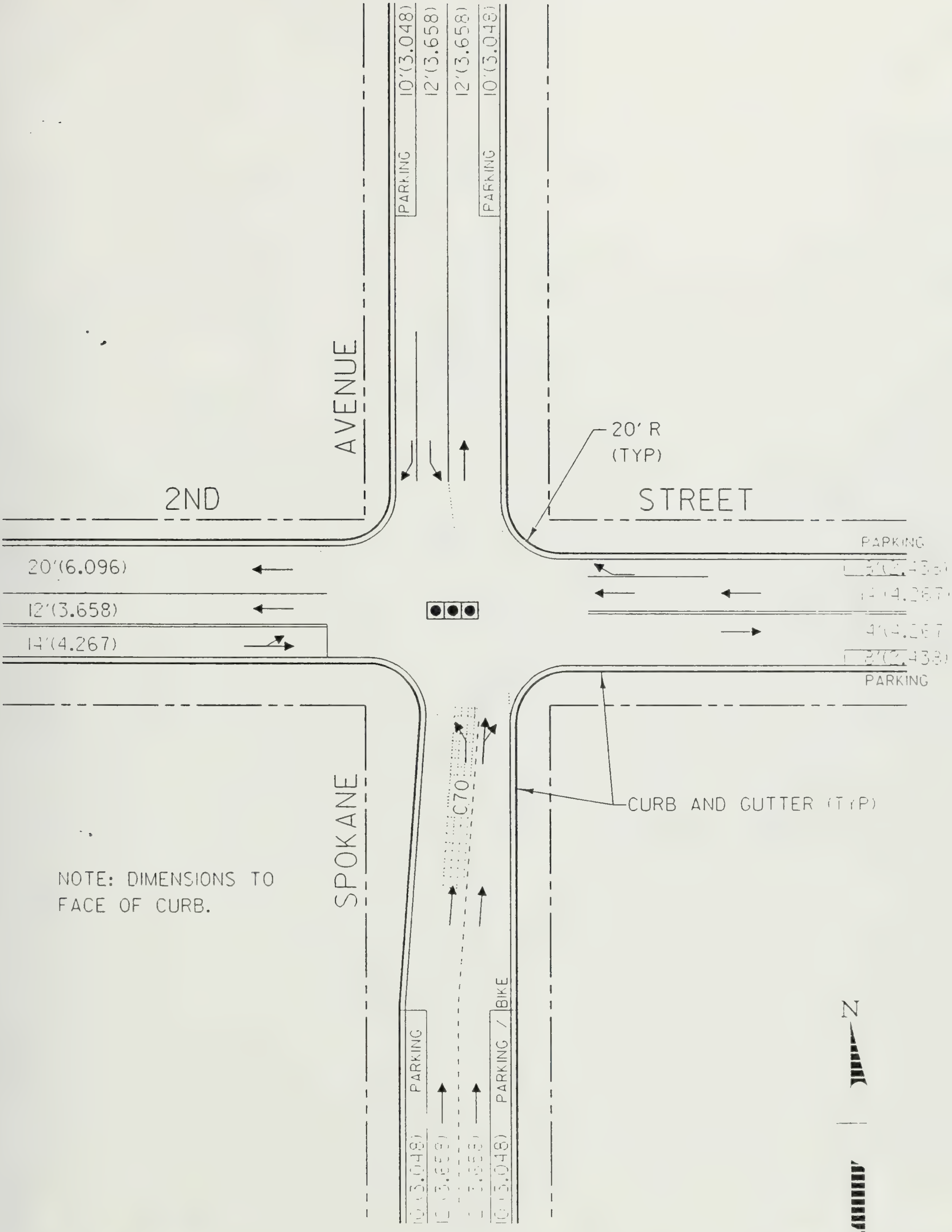
7th Street / Spokane Avenue



Somers to Whitefish
Environmental Impact Statement

Exhibit 18

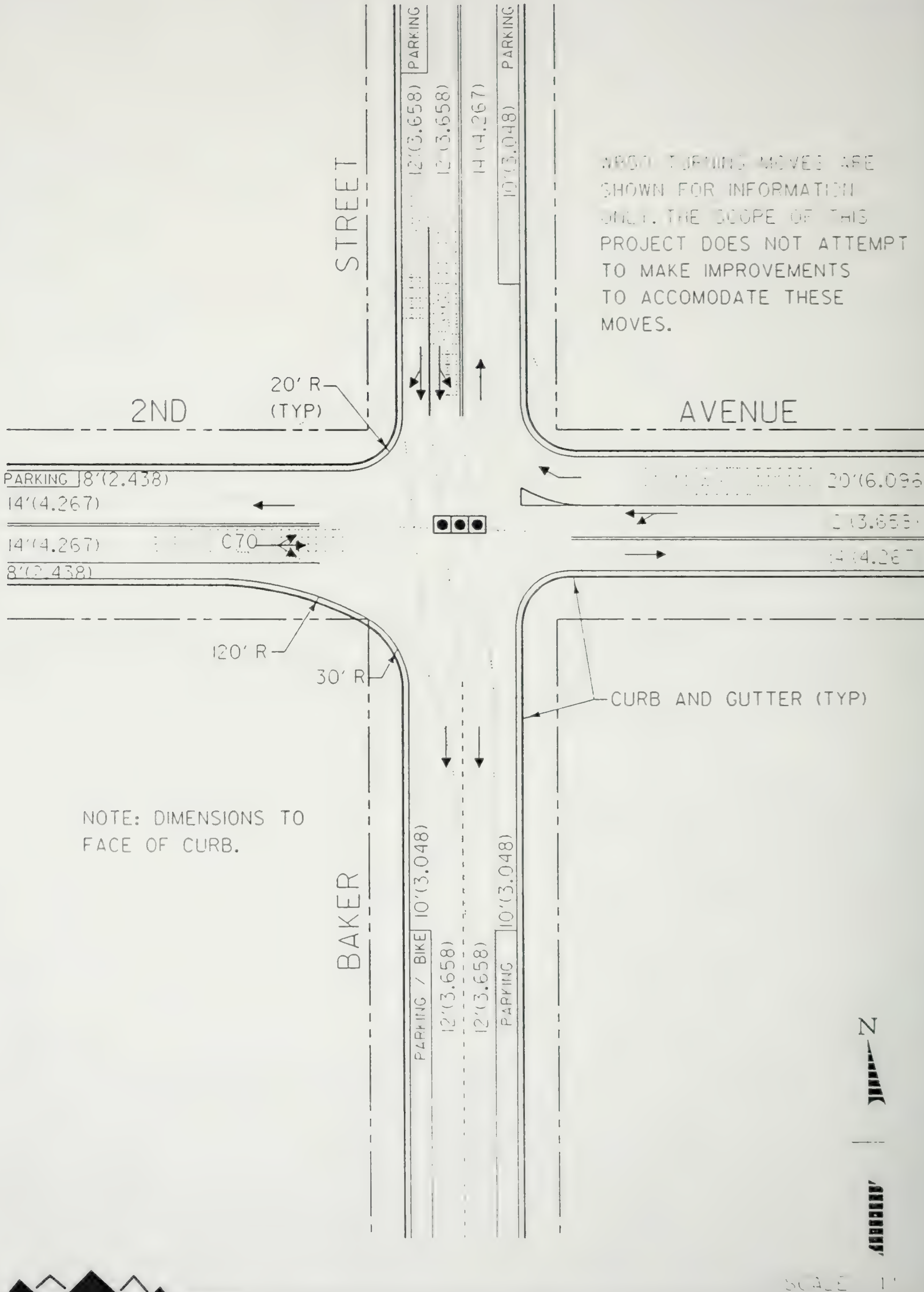
7th Street / Baker Avenue



Somers to Whitefish
Environmental Impact Statement

Exhibit 19

Second Street / Spokane Avenue



Somers to Whitefish
Environmental Impact Statement

Exhibit 20

2nd Street / Baker Avenue

Appendix B
Wetland Information

Appendix B

Wetland Information

This Appendix includes:

- Wetland Functional Assessment Parameters
- Summary of Wetland Classes
- Species of Plants Occurring in Wetlands
- Draft Section 404(b)(1) Evaluation

Wetland Functional Assessment Parameters

1. Relative flood storage is ranked from 1 (low) to 3 (high), based on a subjective evaluation of the site characteristics. Factors affecting relative flood storage include inundation frequency (temporary surface water, intermittently flooded, and semi-permanently or permanently flooded) and water flow (water flows through wetland in distinct channels, water flows in channels but sheet flow also present, and no channels with water flowing uniformly through the wetland).

2. Site sediment retention potential is rated from 1 (low) to 3 (high), based on the presence or evidence of sediment deposition in the site, sediment sources contiguous to or which drain into the site, and the physical potential of the site to retain sediment and prevent downstream impacts. Factors affecting the retention potential are size, volume, flow characteristics (sheet flow versus channelized flow), and vegetative type (rooted emergents with a high cover density provide maximum retention).

3. Nutrient retention capability is rated from 1 (low) to 3 (high) based on an evaluation of the presence of organic matter and contiguousness of the wetland. Noncontiguous wetlands with little accumulation of organic matter rate a 1. Contiguous wetlands with organic matter accumulation rate a 3.

4. Food chain support is ranked low, moderate or high (1-3). A variety of factors is considered in rating food chain support, including the probability of export to other habitats, especially downstream. The relative rate of total biomass production and specific forage values as compared to the surrounding habitats should be considered in ranking food chain support.

5. Wildlife habitat values are ranked from 1 to 3 for nine classes of wildlife (waterfowl, upland game birds, songbirds, raptors, furbearers, non-furbearing small mammals, large ungulates, large carnivores, and threatened or endangered species). Assigned ratings are based on an integration of other wetland functional characteristics, evidence of use obtained by on-site observations, and information obtained from local biologists who may be familiar with the area. Functional value rankings indicated low (1), moderate (2), or high (3) site values. A zero indicates no value. Wildlife habitat values are based on the following criteria:

Criteria	Wildlife Habit Value
Use by wildlife group is significant in that loss or reduction of the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township)	3
Use by wildlife group is evident or probable and loss or reduction of the wildlife use would have an adverse effect on the population in the local area.	2
Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have a negligible effect on the local wildlife population.	1
Use by wildlife group is nonexistent at any time during the year.	0

6. Fisheries value are ranked 1 to 3 (low to high) for three classes of fish (salmonid, non-salmonid game fish, and non-game or rough fish) using the criteria described above for wildlife.

Summary of Classes of Wetlands Identified Along the U.S. Highway 93 Corridor

Montana Department of Transportation
Wetland Hydrologic Category and Vegetative Type
System of Classification

1. Hydrologic Category: Sites with permanent shallow water (6.6 feet depth or less).

   Vegetative Type
   - A. Floating
   - B. Rooted submerged
   - C. Rooted floating-submerged
   - D. Rooted emergent

2. Hydrologic Category: Sites with seasonal or permanent high water tables, but WITHOUT permanent standing water.

   Vegetative Type
   - A. Herbaceous
   - B. Shrub
   - C. Forested
   - D. Unvegetated

3. Hydrologic Category: Riparian sites adjacent to streams or rivers with seasonally saturated soil conditions.

   Vegetative Type
   - A. Herbaceous
   - B. Shrub
   - C. Forested
   - D. Unvegetated

Sites may have more than one hydrologic category and vegetative type present.

National Wetlands Inventory (NWI) Classification

NWI is a program of the U.S. Fish and Wildlife Service (USFWS). Classification of wetlands on NWI maps depict a general description of hydrologic and geologic characteristics of areas supporting wetlands. The NWI classification system is based upon the concepts and definitions presented in Cowardin et al. 1979.

NWI designators for wetlands surveyed along the proposed Highway 93 corridors.

PABF - Palustrine Aquatic Bed Semipermanently Flooded - Nontidal wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Surface water persists throughout the growing season in most years. When surface water is absent, the water table is often near the land surface.

PABFx - Palustrine Aquatic Bed Semipermanently Flooded (excavated) - Nontidal wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Surface water persists throughout the growing season in most years. When surface water is absent, the water table is often near the land surface. Additionally, the wetland lies in a basin or channel excavated by man.

PEMC - Palustrine Emergent Seasonally Flooded - Nontidal wetlands characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. The vegetation is present for most of the growing season in most years and is dominated by perennial plants. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

PEMCx - Palustrine Emergent Seasonally Flooded (excavated) - Nontidal wetlands characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. The vegetation is present for most of the growing season in most years and is dominated by perennial plants. Surface water persists throughout the growing season in most years. When surface water is absent, the water table is often near the land surface. Additionally, the wetland lies in a basin or channel excavated by man.

PEMF - Palustrine Emergent Semipermanently Flooded - Nontidal wetlands characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. The vegetation is present for most of the growing season in most years and is dominated by perennial plants. Surface water persists throughout the growing season in most years. When surface water is absent, the water table is often near the land surface.

PFOA - Palustrine Forested Temporarily Flooded- Nontidal wetlands characterized by woody vegetation that is 6 m (20 ft) tall or taller. Vegetation typically consists of an overstory of trees, an understory of shrubs or young trees, and a herbaceous layer. Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season. Plants that grow both in uplands and wetlands are characteristic of the temporarily-flooded regime.

PSSA - Palustrine Scrub-Shrub Temporarily Flooded - Nontidal wetlands dominated by woody vegetation less than 6 m (20 ft) tall. Species of plants include true shrubs, young trees, and tree or shrubs that are small or stunted because of environmental conditions. Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season. Plants that grow both in uplands and wetlands are characteristic of the temporarily-flooded regime.

PSSC - Palustrine Scrub-Shrub Seasonally Flooded - Nontidal wetlands dominated by woody vegetation less than 6 m (20 ft) tall. Species of plants include true shrubs, young trees, and tree or shrubs that are small or stunted because of environmental conditions. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

PUSA - Palustrine Unconsolidated Shore Temporarily Flooded - Nontidal wetlands with three characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders, or bedrock; (2) less than 30 percent areal cover of vegetation other than pioneering plants; and (3) any water regime except intermittent or intertidal channels of the Riverine System. Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season. Plants that grow both in uplands and wetlands are characteristic of the temporarily-flooded regime.

PUSC - Palustrine Unconsolidated Shore Seasonally Flooded - Nontidal wetlands with shores that have three characteristics: (1) unconsolidated substrates with less than 75 percent areal cover of stones, boulders, or bedrock; (2) less than 30 percent areal cover of vegetation other than pioneering plants; and (3) any water regime except intermittent or intertidal channels of the Riverine System. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

R2USC - Riverine Lower Perennial Unconsolidated Shore Seasonally Flooded - Wetlands and deepwater habitats contained within a channel that has a low gradient, slow velocity of water, and a substrate consisting mainly of sand and mud. The shores have unconsolidated substrates with less than 75 percent areal cover of stones, boulders, or bedrock and less than 30 percent areal cover of vegetation other than pioneering plants. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

R3UBH - Riverine Upper Perennial Unconsolidated Bottom Permanently Flooded - Wetlands and deepwater habitats contained within a channel that as a high gradient, fast velocity of water, and a substrate consisting of rock, cobbles, or gravel with occasional patches of sand. The bottoms of these wetlands have at least 25 percent cover of particles smaller than stones and a vegetative cover less than 30 percent. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface. Water covers the land surface throughout the year in all years. Vegetation is composed of obligate hydrophytes.

R3USC - Riverine Upper Perennial Unconsolidated Shore Seasonally Flooded - Wetlands and deepwater habitats contained within a channel that as a high gradient, fast velocity of water, and a substrate consisting of rock, cobbles, or gravel with occasional patches of sand. The shores have unconsolidated substrates with less than 75 percent areal cover of stones, boulders, or bedrock and less than 30 percent areal cover of vegetation other than pioneering plants. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

R4SBF - Riverine Intermittent Streambed Semipermanently Flooded - Wetlands and deepwater habitats contained within a channel where water flows for only part of the year. When water is not flowing, it may remain in isolated pools or surface water may be absent. Surface water persists throughout the growing season in most years. When surface water is absent, the water table is often near the land surface.

Species of Plants Occurring in Wetlands Located Along the U.S. Highway 93 Corridor

Genus/species	Common Name	Indicator Status1
Acer glabrum	Rocky Mountain maple	FAC
Acer negundo	Boxelder	FAC+
Acer platanoides	Norway maple	- -
Achillea millefoilum	Yarrow	FACU
Agropyron repens	Quackgrass	FACU
Agrostis alba	Redtop	FACW
Agrostis idahoensis	Idaho bentgrass	FAC+
Agrostis tenuis	Common bentgrass	- -
Alnus incana	Thin-leaved alder	FACW
Alnus sinuata	Sitka alder	FACW
Amelanchier alnifolia	Serviceberry	FACU
Anthemis cotula	Mayweed	FACU
Apocynum canabinum	Common dogbane	FAC+
Arctium minus	Common burdock	- -
Artemisia ludoviciana	Gray sagwort	- -
Betula occidentalis	River birch	FACW
Bromus inermis	Smooth brome	- -
Carex interior	Inland sedge	FACW
Carex lanuginosa	Wooly sedge	OBL
Carex microptera	Small-winged sedge	FAC
Carex retrorsa	Retrose sedge	FAC
Carex rostrata	Beaked sedge	OBL
Centaurea maculosa	Spotted knapweed	- -
Cirsium arvense	Canada thistle	FACU+
Clematis ligusticifolia	White virgin's bower	FACU
Cornus stolonifera	Red osier dogwood	FACW
Crataegus columbiana	Columbia hawthorn	- -
Crataegus douglasii	River hawthorn	FAC
Cynoglossum officinale	Hound's tooth	- -
Dactylis glomerata	Orchard grass	FACU
Eleagnus commutata	Silverberry	- -
Eleocharis palustris	Common spikerush	OBL
Elymus cinereus	Great Basin wild rye	FAC-?
Epilobium ciliatum	Willow herb	FACW-
Equisetum arvense	Common horsetail	FAC
Equisetum fluviale	Water horsetail	OBL
Equisetum hyemale	Common scouring rush	FACW
Festuca arundinacea	Tall fescue	FACU-
Festuca rubra	Red fescue	FAC
Festuca pratensis	Meadow fescue	FACU+
Fragaria virginiana	Virginia strawberry	- -
Fraxinus pennsylvanica	Green ash	FAC
Galium aparine	Cleavers	FACU
Galium boreale	Northern bedstraw	FACU
Galium triflorum	Fragrant bedstraw	FACI
Glyceria borealis	Northern mannagrass	OBL
Glyceria striata	Fowl mannagrass	OBL
Glycyrrhiza lepidota	Licorice root	FAC+
Hesperis matronalis	Dame's violet	- -
Hordeum jubatum	Foxtail barley	FAC+
Juncus tenuis	Slender rush	FAC
Juniperus scopulorum	Rocky Mountain juniper	- -
Lathyrus latifolius	Everlasting peavine	- -
Lemna minor	Duckweed	OBL
Lemna trisulca	Star duckweed	OBL

Lonicera utahensis	Red twinberry	FACU +
Marrubium vulgare	Horehound	FACU +
Medicago lupulina	Black medic	FAC
Melilotus alba	White sweet clover	FACU
Melilotus officinalis	Yellow sweet clover	FACU
Mentha arvensis	Field mint	FAC
Myositis scorpioides	Forget-me-not	FACW
Nuphar luteum	Yellow pond lily	OBL
Parthenocissus quinquefolia	Virginia creeper	NI
Phalaris arundinacea	Reed canary grass	FACW
Phleum pratense	Timothy	FACU
Picea pungens	Colorado blue spruce	FAC-
Plantago major	Common plantain	FAC +
Poa palustris	Fowl bluegrass	FAC
Pos pratensis	Kentucky bluegrass	FACU +
Polygonum hydropiperoides	Waterpepper smartweed	OBL
Populus tremuloides	Quaking aspen	FAC +
Populus trichocarpa	Black cottonwood	- -
Potamogeton filiformis	Slender-leaved pondweed	OBL
Potentilla palustris	Marsh cinquefoil	OBL
Prunella vulgaris	Self-heal	FACU +
Prunus virginiana	Chokecherry	FACU
Rosa acicularis	Prickly rose	FACU
Rosa woodsii	Wood's rose	FACU
Rubus idaeus	Raspberry	FACU
Rumex crispus	Curly dock	FACW
Rumex salicifolius	Narrow-leaved dock	FACW
Salix alba	Yellow-twigged willow	FACW
Salix amygdaloides	Peach-leaf willow	FACW
Salix bebbiana	Bebb willow	FACW
Salix bebbiana	Bebb willow	FACW
Salix exigua	Sandbar willow	OBL
Salix lasiandra	Pacific willow	FACW +
Scirpus validus	Softstem bullrush	OBL
Scutellaria galericulata	Skullcap	OBL
Smilacina stellata	Starry false Solomon's seal	FAC-
Solanum dulcamara	Bittersweet nightshade	FAC
Solidago canadensis	Canada goldenrod	FACU
Sonchus asper	Prickly sow-thistle	FAC-
Sorbus scopulina	Cascade Mountain ash	NI
Symphoricarpos albus	Common snowberry	FACU
Tragapogon dubius	Yellow salsify	- -
Trifolium pratense	Red clover	FACU
Trifolium repens	White clover	FACU +
Triglochin palustre	Marsh arrow-grass	OBL
Typha latifolia	Broad-leaf cattail	OBL
Urtica dioica	Stinging nettle	FAC +
Utricularia vulgaris	Common bladderwort	OBL
Viburnum opulus	High-bush cranberry	- -

Notes:

1. *OBL =* *Obligate Wetland - Occur almost always (estimated probability > 99 percent) under natural conditions in wetlands.*
   FACW = *Facultative Wetland - Usually occur in wetlands (estimated probability 67-99 percent), but occasionally found in nonwetlands.*
   FAC - *Facultative - Equally likely to occur in wetlands or nonwetlands (estimated probability 34-66 percent).*
   FACU = *Facultative Upland - Usually occur in nonwetlands (estimated probability 67-99 percent), but occasionally found in wetlands (estimated probability 1-33 percent).*
   + = *More frequently found in wetlands.*
   - = *Less frequently found in wetlands.*

Draft Section 404(b)(1) Evaluation

Applicant: Federal Highway Administration
Application Number: ____________________
Project: Somers-Whitefish (US 93 Reconstruction)
Flathead County, Montana
Project FHWA-MT-EIS-94-01-0

I. Introduction

The 404(b)(1) guidelines, found in Title 40 of the Code of Federal Regulations, Part 230, are the substantive criteria used in evaluating discharges of dredged or fill material in waters of the United States under Section 404 of the Clean Water Act and are applicable to all 404 permit decisions. Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem unless it can be demonstrated that such discharges would not have unacceptable adverse impacts either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.

Subpart B of the guidelines establishes four conditions which must be satisfied to make a finding that the proposed discharge complies with the guidelines. Paragraph 230.10 provides that:

a. Except as provided under Section 404(b)(2), no discharge of dredged material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences;

b. No discharge of dredged or fill material shall be permitted if it violates state water quality standards, Section 307 of the Clean Water Act, or the Endangered Species Act of 1973;

c. No discharge shall be permitted if it causes **or contributes to significant degradation of the Waters of the United States**; and

d. Except as provided under Section 404(b)(2), no discharge shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

Mitigation to offset significant and insignificant adverse impacts may be developed which could result in bringing a project into compliance with the guidelines. Impacts must be avoided to the maximum extent practicable and remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts and, finally by compensation for loss of aquatic resource values.

Section 230.11 sets forth the factual determinations which are to be considered in determining whether a discharge satisfies the four conditions of compliance. These determinations are contained in the following evaluation.

Section 230.12 identifies the findings of compliance or non-compliance with the restrictions on discharge. These findings are contained in Part IV of this evaluation.

II. Project Description

A. Location of the Proposed Action

US 93 is a north-south principal arterial that extends along the western portion of the State of Montana. The segment under consideration is a 46.18-kilometer (28.7-mile) segment from Somers to west of Whitefish. Figure 1-1 in the Final EIS shows the location of this segment.

B. General Description

The Draft EIS evaluates three reasonable location Alternatives A, B and C, and five reasonable design Alternatives A(MEDIAN), A(TURN-LANE), A(COMBO), A(FOUR-LANE), C(OFF-SET). Alternative A involves improving Highway 93 along its existing alignment. Alternative B involves constructing a bypass west of Kalispell. Alternatives C involve a highway route modifications through Whitefish. Alternative A(MEDIAN) provides for a four-lane divided highway, with maximum highway corridor width. Alternative A(TURN-LANE) provides for a five-lane highway with minimum highway corridor width. Alternatives A(COMBO), A(FOUR-LANE), C(OFF-SET) combine cross-sections and features from design Alternatives A(MEDIAN), A(TURN-LANE) depending upon the characteristics of a particular segment. Chapter 2 of the Final EIS provides a complete description of the alternatives**, with a description of the preferred alternative**.

C. Authority and Purpose

The primary purpose and need for improvements to US 93 is to reduce congestion on the existing facility, provide for planned growth and development, improve safety, provide for improved intermodal facility connections and provide for enhanced scenic values.

D. General Description of the Dredged or Fill Material

1. General Characteristics of Material

No recent or comprehensive soil borings have been taken related to the U.S. 93 Somers to Whitefish project. In the absence of specific boring data, short general descriptions of the soils associations underlain by the proposed alternatives are provided. These descriptions are taken from the Upper Flathead Valley Soil Survey 1960, by USDA Soil Conservation Service.

Five separate soil associations underlie the proposed alternatives in large continuous segments.

Whitefish Association:

> Located between the northern project extent to milepost 129, and milepost 126.5 to milepost 121. Whitefish soils cover most of this association. They are deep, well drained, light gray, loamy soils that have developed in glacial till under heavy forest cover. Slopes in this association vary from moderate to very steep.

Halfmoon - Depew - Stryker Association:

Located between milepost 129 and 126.5. The soils in this association are deep, light - gray, and loamy to somewhat clayey. They have developed in alluvial material under heavy forest. They range from well drained to poorly drained. The Half Moon and Depew soils occur on higher, well drained sites; Stryker soils are on the low moderately well drained sites and the Radnor soils are on poorly drained soils.

Kalispell-Tally - Blanchard, and Flathead Association:

Located between milepost 121 and milepost 111 along the U.S. 93 corridor and from Ashley Creek north along the Kalispell Bypass alternatives. This association consists of deep, dark brown, well drained loamy and moderately sandy soils and moderately deep gravely soils. These soils have developed in outwash and terrace alluvium under a moderate to heavy cover of grass.

Kalispell - Somers - Demers Association:

Located from milepost 111 to the southern extent of project. This association contains mostly deep, dark brown, well drained and moderately well drained, loamy to clayey soils. These soils have developed in terrace alluvium under moderate to heavy cover of grass. The Kalispell soils are in well drained sites; the Somers in moderately well drained sites.

Prospect - Yeoman Moderately deep over sand Association:

Located in random lenses along the Kalispell Bypass B alternatives. This association may contain many boulders throughout. It consists mainly of deep, dark brown and nearly black, well drained, stoney loamy soils that developed in till under a moderate to heavy cover of grass. The Yeoman soils are moderately deep over sand and the Prospect soils are on steeper slopes.

Local variability exists along the proposed corridors.

Since the project lies mostly within the valley bottom, little or no involvement with bedrock or parent material is expected along the alternatives. Also, resulting from the shallow to moderate relief/slope along the alternatives, there is expected to be less potential for erosion of exposed substrate.

2. Quantity of Material

Material quantities relating to encroachment and/or wetland fill are limited. The geometric relationship at crossings between susceptible areas, such as rivers and streams, and the proposed alternatives is very nearly perpendicular in all instances. There are no long adjacencies of susceptible areas requiring linear parallel encroachments.

Encroachments for all of the possible alternatives are limited to bridge abutments, piers and pier footings for those crossings designated for bridge treatment; and box culverts and required grading necessary at minor crossings.

Non-riparian wetland fill areas occur in very small localities along the proposed alternatives. These may be affected by minor fill in places were necessary to bring the roadway profile up to standards.

The following Tables B1-1 and B1-2 describe riparian and non-riparian Section 404 sites respectively. These descriptions of sites along the alternative corridors include the type of site, type of involvement and approximate quantity of fill materials necessary at that site.

Area calculations in hectares were used to calculate quantities of isolated wetland areas that will be covered by fill adjacent to the alternatives. Volume calculations were used in cubic meters for riparian areas. These volumes represent quantities below the ordinary high water mark.

Table B1 - 1
Section 404 Riparian Sites and Potential Fill Quantities in Cubic Meters (cu. yds.)
Alternatives A(MEDIAN), A(TURN-LANE), A(COMBO), A(FOUR-LANE), C(OFF-SET), B(MEDIAN), B(TURN-LANE)

Site No.	Site Location	Site Type	Existing Involvement	Proposed Involvement	No Build	A(MEDIAN)	A(TURN-LANE)	A(COMBO)	A(FOUR-LANE)	C(OFF-SET)	B(MEDIAN)	B(TURN-LANE)
5	Patrick Creek	Riparian	Culvert	Culvert								
6	Patrick Creek	Riparian	Culvert	Culvert	0.0	57 (74)	11 (15)	57 (74)				
7	Patrick Creek	Riparian	Culvert	Culvert								
8	Ashley Creek	Riparian	Culvert	Bridge Encroachment/culvert	0.0	28 (37)	28 (37)	28 (37)				
9	Ashley Creek	Riparian	None	No Involvement	0.0						0.0	0.0
10	Ashley Creek	Riparian	None	Culvert	0.0						7300 (9600)	7300 (9600)
15	Ashley Creek	Riparian	None	Culvert	0.0						20000 (26200)	20000 (26200)
16	Ashley Ck. Trib.	Riparian	None	Culvert	0.0						2600 (3400)	2600 (3400)
17	West Spring Creek	Riparian	None	Culvert	0.0						8600 (11200)	8600 (11200)
18	Stillwater River	Riparian	Bridge	Bridge Encroachment	0.0	42 (56)	42 (56)	42 (56)				
21	Whitefish South *	Riparian	Culvert	Bridge Encroachment	0.0				*-17750 (-23,170)	*-17750 (-23,170)		
24	Whitefish North	Riparian	Bridge	Bridge Encroachment	0.0	14 (18)	14 (18)	14 (18)				

* A negative value is used here due to the specific circumstance at this site. The existing crossing uses three large culverts with necessary fill. One of the alternatives for this project proposes to remove all fill and culvert and replace with a bridge structure. **The preferred alternative is to leave the existing culverts in place**.

Table B1 - 1 (Cont.)
Section 404 Riparian Sites and Potential Fill Quantities in Cubic Meters (cu. yds.)
Alternatives C(COUPLET-1), C(COUPLET-2), C(COUPLET-3), C(COUPLET-4)

Site No.	Site Location	Site Type	Existing Involvement	Type of Involvement	No Build	C(COUPLET-1)	C(COUPLET-2)	C(COUPLET-3)	C(COUPLET-4)
22	Whitefish 7th St.	Riparian	None	Bridge Encroachment	0.0	0.0	18 (23)	18 (23)	0.0
23	Whitefish Baker St.	Riparian	Bridge	Bridge Encroachment	0.0	14 (18)	14 (18)	14 (18)	14 (18)

Table B1 - 2
Total Wetland Loss by Wetland
Hectares (Acres)

Wetland Impacted	Impact Hectares (Acres)	Functions, Overall Ranking	
1	0.012 (0.03)	Major functions: flood storage, nutrient retention.	9.5
2	0.036 (0.09)	Major functions: flood storage, nutrient retention, food chain.	12
6	0.20 (0.5)	Major functions: nutrient retention.	9.5
7	0.12 (0.3)	Major functions: nutrient retention, food chain, wildlife habitat.	13
8	0.09 (0.22)	Major functions: flood storage.	12
9	0.11 (0.27)	Major functions: flood storage, nutrient retention, food chain.	14.5
10	0.3 (0.75)	Major functions: flood storage, food chain.	11.5
11	0.05 (0.13)	Major functions: flood storage, nutrient retention, food chain.	12.5
12	0.53 (1.32)	Major functions: flood storage, nutrient retention, food chain.	12.5
13	0.37 (0.92)	Major functions: flood storage, food chain.	10
14	0.04 (0.11)	Major functions: flood storage, food chain.	11.5
15	0.06 (0.14)	Major functions: flood storage.	12
16	0.17 (0.41)	Major functions: flood storage, nutrient retention, food chain.	12.5
17	0.08 (0.20)	Major functions: flood storage, nutrient retention, food chain.	12.5
18	0.17 (0.43)	Major functions: flood storage, nutrient retention, food chain.	14.5
19	0(0)	Major functions: flood storage, nutrient retention, food chain.	10.5
20	0.012 (0.03)	Major functions: flood storage, food chain	12
21-24	0.04 (0.10)	Major functions: flood storage, nutrient retention, food chain.	14-17
25-28	0(0)	Major functions: flood storage, wildlife habitat	
Total	2.4 (5.95)		

At the current stage of design it is expected that all riparian wetlands and areas below ordinary high water marks will be avoided by bridge abutments, and that the only encroachment in these areas will be related to piers and or pier structures. The volume calculations for bridge type involvements above reflect only these substructure volumes.

Additionally, it is expected that all isolated wetland fills will be contained within the existing or proposed right-of-way. There will not be any need for slope easements outside of these areas.

The above calculations are based on a worst case scenario whereby all of the wetland within the right-of-way will be filled. This is not however, the expected outcome of final design. The figures are representative of the eventual wetland area fill quantities.

3. Sources of Fill Material

Native materials generated through excavation for the roadway could be processed with on-site crushing equipment and used if the material meets specifications. Another option is to import granular backfill material to the project area.

Material used for fill is expected to be taken from the closest possible on-site location and will therefore be similar to the in situ substrate.

No other specific locations of fill resource have been identified to date. First priority is to locate any that are within the project area. If sufficient embankment material is not generated from excavation on the project site, a local source of fill material would be used. It is expected that particle size and shape as well as other characteristics would be similar to that at the discharge sites, although density of the fill material may be greater after road bed compaction.

Fill would not be taken from any environmentally sensitive areas.

E. Description of the Proposed Discharge Sites

1. Location of Sites

All of the proposed alternatives intersect with or involve riparian wetland features within the Upper Flathead River Drainage. These sites are described in Figure 3-10 of the Final EIS. The main corridor along U.S. 93, Alternative A, intersects with three major water features within the valley which are Ashley Creek, the Stillwater River, and the Whitefish River (twice). There are also minor crossings of tributaries of these streams. The Kalispell bypass Alternative B also crosses two riparian water features; Ashley Creek (3 times) and West Spring Creek.

Additionally, there are 14 non-riparian or isolated wetland sites randomly located adjacent to one or more of the proposed alternatives. These are also shown in Figure 3-10 in the Final EIS.

2. Size of Sites

The size of Section 404 sites vary widely within the project area. They range from 0.081 hectares to 13.77 hectares (0.2 acres to 34 acres) in size. Table 3-20 in the FEIS describes the total area of each site and the total area within an assumed corridor.

These calculations are based on the assumption that the corridor is 30.5 meters (100 feet) wide on either side of the existing roadway or on either side of the proposed centerline in areas where no roadway exists.

3. Types of Sites Affected

Three types of discharge sites would be affected including wetlands, rivers and creeks.

Sites designated in Table B1-1 and B1-2 as "Isolated" are wetland areas that are not associated with fluvial environment. They are usually topographically low spots that are fed by ground water or seasonal precipitation regimes. Some are partially inundated all year and others are not. They are classified and described in section II.E.4. below. These types of wetland areas will be affected by roadway fill placed partially or completely within their boundaries. This is necessary to provide a roadway profile that meets safety standards.

Sites designated in Table B1-1 and B1-2 as "Culvert" are areas directly related to minor tributaries within the project drainage. These are small channels either natural or man-made that will be crossed by means of a culvert. The culvert will be sized and placed so as not to impede normal flows or flood events. Riparian

wetland areas located on either side of the culverts at these sites will be filled to meet grade. The roadway will then pass over the structure.

Finally, sites designated as "Bridge Encroachment" in Table B1-1 and B1-2 are areas that involve significant streams or rivers. At these locations bridge structures **are planned for the crossing, although this will be finally determined during the final design process**. These bridge structures require fill as part of the abutments on either side of the crossing. In this project all of the abutment fills are expected to be placed outside the ordinary high water mark and outside the 100 year flood elevation. These sites will also require pier construction. A number of piers and footings will be placed within the channel to support the bridge structure. Although construction of piers will require excavation below the existing channel bottom, it is expected that the existing cross section of each channel will be preserved by backing filling the footing to previous configurations. Excavation for footings then will not be calculated as a permanent displacement within the ordinary high water mark. Riprap armoring of the abutments will be necessary under the proposed conceptual designs. These "fills" will follow guidelines provided by both the FHWA and MDT. It is intended that there will be no volume increase below the **ordinary** high water line. Existing substrate will be removed as necessary to provide room for riprap, thus retaining essential hydraulic characteristics of the channel.

4. Types of Wetland Habitat Affected

The types of habitat existing at wetlands affected by the proposed alternatives is summarized in Table 3-21 of the Final DEIS. These classifications are derived using the United States Fish and Wildlife Service National Wetlands Inventory (NWI) criteria, and MDT classifications.

An explanation of the NWI and MDT classifications and additional information about affected wetlands, a detailed description of wetland habitat types and a description of the wetland resources as they relate to vegetation, hydrology and function can be found in Section 3.10 and Appendix B of the Final EIS.

5. Timing and Duration of Discharge

Construction timing has several alternatives as described in Section 4.20 of the Final EIS. Duration of discharge will vary depending on the type of construction (bridge, widening or new road construction) that is undertaken in any specific location. Detailed phasing plans will be prepared during final design. This information is necessary to determine turbidity, due to seasonal fluctuations in base flow of the water feature. **Section 404 program requirements are that stream discharges shall not disrupt the migration or other movement of those species of aquatic life inhabiting the water body and shall not occur in spawning areas if a practical alternative exists.**

F. Description of Disposal Method

The following sections describe the general construction methods that would be employed to build the new road and bridge in the vicinity of surface waters and wetlands.

Encroachments - Cofferdams must be placed in the river along the riverbank area where the construction of the proposed abutments or walls would encounter water. After the cofferdams are placed, river water trapped behind the temporary dams would be pumped out to expose the river bed and facilitate the excavation activities necessary to construct the lower portion of the retaining wall. Excavated materials and water confined in the

cofferdams would be transferred to a temporary settling ponds to remove sediments. The retained sediment would be disposed of in locations which would prevent its reintroduction to surface waters. No locations for a temporary settling pond have been investigated for the Final EIS. However, the location for such a facility would be identified before construction permits are obtained.

Placement of Fill in Wetlands -- Fill materials would be placed in isolated wetlands by large earthmoving and shaping equipment. Excess materials from adjacent areas of the project would be transported to sites where additional fill is needed to elevate the subgrade of the roadway.

Construction of Bridge Piers -- New bridge construction over riparian wetlands, would require that the streambed be excavated to construct footings and piers for the structure. The contractor for the bridge would most likely build one pier at a time to an elevation that is above the water level in the river. Typically, sheet pile cofferdams would be driven around the location of each pier and the area of streambed enclosed by the cofferdams would be excavated. Steel piles would be driven at the footing location and a concrete seal some 1.22 to 1.525 meters (4 to 5 feet) thick would be poured underwater to provide a base upon which the footing would be constructed.

After the concrete seal is in place, the area confined by the cofferdams would be dewatered. Forms and reinforcing steel for the footing and pier would be placed. Concrete for the footing and piers would then be poured in sequence and allowed to cure as required.

Temporary work bridges and scaffolding would be required for equipment and workers to use during construction.

Material excavated for the pier footings and water from the enclosed cofferdams would be transported to predetermined settling ponds to remove sediments.

III. Factual Determinations (Section 230.11)

Potential impacts of the discharge of fill material into the various river systems and wetlands affected by the project are evaluated below.

A. Physical Substrate Determinations

The materials contained in the substrate of project area streams are dependent on the velocity of flows. Fine sediments are usually deposited in pools and along calm riverbank areas, while gravel and cobbles are usually present beneath smooth flowing sections of a river.

1. Substrate Elevation and Slope

The elevation and slope of any of the streambeds within the U.S. 93 Somers to Whitefish project area would not be adversely affected by any of the proposed alternatives. Although the design intent is to preserve the existing channel characteristics, the placement of fill materials along the banks of the river may cause minor, localized changes to the elevation and slope of the stream bottom. Overall stream gradients and flow regimes will not be affected.

2. Compare Fill Material and Substrate at Discharge Sites

Encroachments -- The substrate in the vicinity of the proposed discharge sites is expected to consist of smooth cobbles, gravel and fine sediments along the river or creek banks. The fill used would be select granular backfill.

Isolated Wetlands -- Substrates in wetland areas affected by the project would consist of fine sediments transported by feeder streams and by runoff during precipitation events and snow melt. The material placed in isolated wetlands affected by the project would be embankment materials generated through excavation of areas near each wetland. These materials would be expected to be of the same parent constituents as substrate materials.

3. Dredged/Fill Material Movement

The fill materials used in the encroachments would consist of materials that are not prone to movement by water action.

The fill materials placed in wetlands would not be expected to move since the affected sites are isolated, and contained areas predominantly fed by surface water runoff.

4. Physical Effects on Benthos, Invertebrates, Vertebrates

a. *Physical Effects on Benthos*

The highway project would destroy benthic organisms along riverbanks or in inundated wetland areas where fill materials would be placed. The fill material would also eliminate a minor amount of bottom habitat available to organisms through a slight decrease in the width of the river channel.

b. *Physical Effects on Invertebrates*

The primary effect to aquatic invertebrates expected to result from highway construction is that aquatic insects located along the river bank or in wetlands would be buried by the placement of fill materials. Construction activities in the rivers could dislodge insects from existing habitat and cause them to be transported downriver by water currents. There is a potential that short-term, localized increases in suspended sediments from fill material placed in surface water. This could adversely affect aquatic insects that rely upon sight to find food.

c. *Physical Effects on Vertebrates*

Adverse impacts to fish could potentially result from the project if substantial amounts of sediments from the erosion of disturbed areas are transported into the river system. These sediments could adversely affect stream habitat for fish by increasing silt in spawning gravel and rearing habitat, suffocating eggs or fry, or by affecting the aquatic organisms that fish rely upon as a major food source. Measures incorporated into the project would minimize the likelihood that such potentially significant adverse impacts would occur in the project area.

Fish could also be adversely affected through the introduction of toxic materials to the water through highway runoff or through accidental spills. The potential for a toxic spill exists in several sections of the project area due to the proximity of the existing and new highway to rivers and the fact that vehicles transport a variety of hazardous materials over US 93.

As indicated in Section 4.10 of the Final EIS, analyses indicate that pollutants associated with highway runoff and snowplowing or deicing would have minor effects on the quality of waters in project area rivers. This conclusion also suggests that the effects of such pollutants on fish would be minor.

The effects of the project on other vertebrates found in the project area are described in Section 4.12 of the Final EIS.

5. Erosion and Accretion Patterns

None of the proposed alternatives would alter erosion or accretion processes associated with the specific water courses.

6. Actions Taken to Minimize Impacts (Subpart H)

The project would include several measures designed to minimize impacts to substrates at the site of each encroachment. These measures will include:

- Confining the discharge to the smallest area possible to minimize the number of benthic organisms that are destroyed or displaced;
- Using fill materials that are similar to the substrate whenever possible; and
- Timing the necessary work in wetlands or below the ordinary high water mark to minimize impacts.

Additionally, MDT's newly developed *Highway Construction Standard Erosion Control Workplan* will be used by highway designers to identify Best Management Practices (BMPs) for erosion control that are specific to the project. The identified BMPs will be based on the proximity to surface waters and other sensitive resources. The contractor for the project will be required to follow the recommended BMPs during the construction of this project. The intent of this effort is to identify measures that will limit or prevent erosion of disturbed areas of the project and minimize the potential for sediments to be transported into surface waters during and after construction.

B. Water Circulation, Fluctuation, and Salinity Determinations

1. Water

Discussions about the existing water chemistry, water circulation characteristics, and water fluctuations for waters in the project area are contained in Section 3.9 of the Final EIS. The sections below focus on the project's effects on these aspects of local water quality.

a. Salinity

The project would not substantially alter the salinity of waters in the various river systems.

b. Water Chemistry

The project would not cause changes in the water chemistry or pH levels in the various river systems, nor would the project discharge mineral constituents to surface waters in concentrations that would substantially change the alkalinity or hardness of surface waters.

c. Suspended Sediments

The project could cause temporary and minor increases in suspended sediments during construction activities in or near surface waters as fines present in fill are transported from disposal sites by water currents.

d. Clarity (Turbidity)

The placement of fill materials may cause minor and temporary increases in turbidity during activities associated with the construction of the encroachments.

e. Color

The deposition of fill materials into rivers would disrupt the substrate and could temporarily increase sediment concentrations for short periods during construction. An increase in suspended sediments may alter the color of waters in the vicinity of the discharge sites for short periods immediately following the deposition of fill. This change in color would be more apparent if the discharge occurred during base flow conditions rather than during the spring runoff when high concentrations of sediments are present giving the river a milky color.

f. Odor

The project would not contribute odor-causing materials to waters in the project area.

g. Taste

The project is not likely to introduce substances to the waters of the river systems that would impart objectionable tastes to the water.

h. Dissolved Gas Levels

The project would not cause notable increases in the turbulence of flows in the river systems and is unlikely to cause changes in the level of dissolved oxygen present in the water.

i. Nutrients

The project is not expected to add substantial concentrations of nutrients to surface waters in the river systems.

j. Eutrophication

The project would not contribute quantities of sediments or nutrients to the Flathead River system sufficient to accelerate the natural process of eutrophication presently occurring in Flathead Lake or Whitefish Lake.

k. Water Temperature

The project would not significantly increase the temperature of flowing waters in the river systems or in isolated wetlands.

2. Current Patterns and Circulation

a. Current Patterns, Drainage Patterns, Normal and Low Flows

The project would not alter localized drainage patterns or affect the total flow of water in the river systems.

b. Velocity

The construction of new bridges, or modifications of existing bridges is not expected to cause substantial changes to the velocity of existing flows in the rivers.

c. Stratification

The project would not be expected to contribute to the stratification of waters in any rivers.

d. Hydrologic Regime

The project would not affect the hydrologic regime present in any river system.

e. Aquifer Recharge

The project would not adversely affect aquifer recharge areas.

3. Normal Water Level Fluctuations

The project would not change normal water level fluctuations in any river system.

4. Salinity Gradients

Salinity gradients form where salt water from the ocean meets and mixes with fresh water from the land. This situation does not occur within the project area.

5. Actions That Will Be Taken to Minimize Impacts

An Erosion Control Plan for the final design of the project will be completed to identify best management practices (BMPs) for the control of erosion and sedimentation. The BMPs will be implemented during and after construction to minimize the potential for water quality degradation from sediments transported to receiving waters from disturbed areas and the roadway.

C. Suspended Particulate/Turbidity Determinations

1. Expected Changes in Suspended Particulates and Turbidity Levels At or Near the Disposal Sites

The placement of fill may introduce amounts of fine materials to surface waters causing temporary increases in the level of suspended sediments following deposition. During construction in or along rivers, some bottom sediments would likely be resuspended due to turbulence caused deposition activities. Turbidity levels in the vicinity of river encroachments or affected wetlands may be elevated for short periods during and after deposition of fill.

The potential for runoff from areas adjacent to rivers and wetlands to transport sediments to surface waters causing increases in turbidity also exists. The potential for introducing sediments to surface waters would be highest during construction activities when vegetation over large areas of the corridor has been removed exposing erodible soil materials.

2. Effects on Chemical and Physical Properties of the Water Column

a. Light Penetration

Light penetration may be affected by disturbances to the substrate and with the introduction of minor amounts of new materials associated with the discharge that may be suspended in the water. These impacts would be short-term and occur only during the construction of encroachments.

b. Dissolved Oxygen

Concentrations of suspended particulates may be elevated for short periods during construction activities, however, turbid conditions would not persist long enough to increase water temperatures or substantially lower the rate of photosynthesis and primary productivity.

c. Toxic Metals and Organics

The fill materials used for construction of the project would be locally obtained. Water quality data for river systems in the project area does not suggest that soils constituents in the project area are a source of toxic metals or organics. There is no reason to indicate that fill materials used for this project would contain concentrations of toxic metals or organics at higher levels than those that naturally occur in the area, except for one documented site containing heavy metals as described in Part III.D.1.c of this evaluation. This site will not be used for fill materials for construction of the project.

d. Pathogens

The proposed fill materials would not be expected to introduce pathogens to surface waters. Potential sources of viruses or pathogenic organisms are not known to exist in the project area.

e. Aesthetics

The project could produce localized adverse effects on the aesthetics of the water during the placement of fill materials if water turbidity levels are elevated for short periods during construction activities and following the deposition of fill in wetlands. The fill activities associated with the project would not be expected to produce suspended particulates in quantities that would create turbid plumes in the river.

3. Effects on Biota

a. Primary Production, Photosynthesis

As indicated in 2b above, turbid water conditions would not be expected to persist long enough to substantially lower the rate of photosynthesis and primary productivity. Turbidity increases would be localized to the area where the bridges would be constructed and where material is placed in wetlands.

b. Suspension/Filter Feeders

Collectors and filter feeders capture and use organic particles suspended in the current. Suspension and filter feeders (like net-spinning caddis larvae and burrowing mayfly nymphs) in waters of the project area would be destroyed if their habitat is located in areas where fill materials would be deposited. Other short-term impacts may occur if suspended fines from the fill materials alter or reduce the amount of organic particles available to these organisms. Such impacts would persist only for short periods during construction activities.

c. Sight Feeders

Long-term adverse impacts on sight feeders in the Flathead drainage (like stonefly nymphs) are not likely because the level of particulates suspended in the water volume would be elevated for only short periods immediately following deposition of fill materials.

4. Actions Taken to Minimize Impacts

An Erosion Control Plan for the final design of the proposed action will be completed to identify best management practices (BMPs) for the control of erosion and sedimentation. This list of BMPs was identified based on the procedures outlined in MDT's *Highway Construction Erosion Control Workplan*.

The BMPs identified generally include measures for erosion control on roadside slopes (like run on control, slope roughening, temporary seeding, and the use of erosion control blankets) and sediment retention measures (like using straw bale barriers, silt fences, and dugout ditch basins).

D. Contaminant Determinations

1. Evaluation of the Biological Availability of Pollutants in Dredged or Fill Material

a. Physical Characteristics of Fill or Dredge Materials

The primary material to be used as fill would be generated through excavation within the project area. Embankment materials would not be imported to the project area unless sufficient quantities are unavailable. A localized source for fill would be used if additional material is needed for the project. Local sources of fill material would be expected to consist of particle sizes and constituents similar to those of the project area. Any fill material used would be clean fill, and not leaking any hazardous or toxic pollutants.

b. Hydrography in Relation to Known or Anticipated Sources of Contamination

The location of US 93 crossing several rivers presents a situation in which contaminants from highway runoff or accidental spills could directly enter the river system. Highway runoff or an accidental spill on the bridges could introduce contaminants directly into the rivers.

The no-build alternative would not be expected to reduce accidents. Any of the build alternatives are expected to reduce the number of overall accidents on US 93. This expected accident reduction will also apply to vehicles transporting toxic or hazardous materials. Thus, the build alternatives are expected to reduce the potential for toxic or hazardous materials to enter into the aquatic environment.

Stormwater detention areas constructed for this project will also be available to detain hazardous or toxic materials spills. Spill materials which are detained will not directly enter the river system.

c. Results from Previous Testing of the Material or Similar Material in the Vicinity of the Project

A 2.03 hectares (5 acre) site, located along Alternative B at the southwest corner of Foy's Lake Road and the Burlington Northern Railroad track, is the former refinery. This site was inspected under Superfund in 1988 and reports indicated slightly elevated levels of lead and zinc and traces of cadmium and thallium. According to the reports, soil covering the entire site could be contaminated by heavy metals and should be avoided or removed. No other testing of materials in the project area has been done to determine if contaminants are present.

d. Known, Significant Sources of Persistent Pesticides from Land Runoff or Percolation

There are no known significant sources of pesticides present in the project area.

e. Spill Records for Petroleum Products or Designated (Section 311 of CWA) Hazardous Substances

In 1988, 37.8 liters (ten gallons) of oil was reported spilled on the east edge of US 93 south of Kalispell at Milepost 110.1. In 1992, an unknown quantity of gasoline was dumped down a storm drain at Milepost 111.3.

f. Other Public Records of Significant Introduction of Contaminants from Industries, Municipalities, or Other Sources

Other public records do not disclose any significant introduction of contaminants from industries, municipalities or other sources.

g. Known Existence of Substantial Material Deposits of Substances Which Could be Released in Harmful Quantities to the Aquatic Environment by Man-Induced Discharge Activities

There are no substantial material deposits of substances which could be harmful if released into the aquatic environment through discharge activities known to exist in the project area.

h. Other Sources of Contaminants

Other sources of contaminants that may be present in the project area are described in the following paragraphs.

Road Salts/Deicing Chemicals -- The project area is subject to winter weather that often produces snow-covered or icy road conditions on US 93. Maintenance activities during periods when such road conditions persist include the application of sand, salt or other deicing chemicals. In portions of the corridor where the road exists adjacent to rivers, these materials may be directly transported to receiving waters by subsequent snow plowing or by runoff from the highway generated by melting snow and ice. Analyses completed for the Draft EIS indicate that such substances are not likely to be introduced into rivers in concentrations that would substantially degrade water quality.

Dust Suppressants -- The Montana Department of Health and Environmental Sciences Air Quality Bureau has expressed concerns about the generation of particulate matter within the corridor during and following construction of the highway. The agency recommended that water and/or chemical dust suppressants be used to minimize road dust. In the absence of erosion control measures, surface runoff from the construction zone and roadway could transport chemicals from dust suppressants to receiving waters affecting water quality.

2. Contaminant Determination

An evaluation of the information presented in 1a. through 1h. above indicates that there is no reason at this time to believe the proposed fill material is a carrier of contaminants. Therefore, the material would be expected to meet the testing exclusion criteria.

E. Aquatic ecosystem and Organism Determinations

1. Effects on Plankton

For highway reconstruction projects, changes to water transparency due to suspended sediments and pollutants from surface runoff, are the primary concerns. The proposed reconstruction of US 93 is expected to cause only short-term changes in water clarity during the placement of fill materials, installation of coffer dams, or dewatering activities.

2. Effects on Benthos

The project's potential effects on benthos were generally described in III.A of this evaluation. Physical Substrate Determination presented earlier in this 404(b)(1) evaluation.

3. Effects on Nekton

Nekton are actively swimming aquatic organisms (like fish) able to navigate independently of water currents. The proposed action's potential impacts on nekton were generally described in Part III.A of this evaluation. Physical Substrate Determination presented earlier in this 404(b)(1) evaluation. Section 4.12 of the Draft EIS also contains a discussion of the impacts on fish that may potentially occur from the project.

4. Effects on Aquatic Food Web

The discharge activities associated with the proposed action would not cause long-term disruptions to or adversely impact the aquatic food web that exists in the river systems.

5. Effects on Special Aquatic Sites

Special aquatic sites are geographic sites possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the overall environmental health or vitality of the entire ecosystem within a region. The following items a. through e. describe the special aquatic sites associated with the project, and project effects on those sites:

a. Sanctuaries and Refuges

There are several areas within the project area that have been designated as wildlife or waterfowl sanctuaries or refuges by State, Federal or local agencies. These are:

1. Kuhns Wildlife Management Area
2. Flathead Waterfowl Production Area

3. Batavia Waterfowl Production Area

The project would not impact any of these wildlife refuges.

b. Wetlands

Wetlands affected by the project consist of isolated wetlands and riparian wetlands associated with rivers. A total of 13.2 hectares (32.5 acres) of jurisdictional wetlands for Section 404 purposes exist within a corridor width of 30.5 meters (100 feet) on either side of the roadway or proposed centerline or proposed centerline for the proposed highway reconstruction. **Approximately 2.4 hectares (5.95 acres)** of these jurisdictional wetlands would be disturbed by construction.

c. Mud Flats

Mud flats are broad flat areas along seacoasts or inland lakes, ponds or rivers. They are usually vegetated. There are no mud flats within the limits of this project. The project would not create new mud flats.

d. Vegetated Shallows

Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation like cattails and sedges. Wetlands locations are depicted in Figure 3-10 of the Final EIS. Wetlands which are considered vegetated shallows include wetland numbers 1-8, 11, 12, 16, 20, 22, 23, 25 and 28.

e. Riffle and Pool Complexes

Due to the low, to extremely low, gradient of the streams associated with this project there are no riffle and pool complexes at or near disturbance areas.

6. Effects on Threatened/Endangered Species and Their Habitat

The US Fish and Wildlife Service (USFWS) indicates the bald eagle is present in the general vicinity. The peregrine falcon is a seasonal migrant to the area. Occurrence of the Water Howellia within the general project area has not been documented, nor is it expected. A Biological Assessment has been prepared for these species. **The USFWS has concurred in the finding of "No Adverse Effect."**

7. Effects on Other Wildlife, Mammals, Birds, Herpetiles, Fish, Invertebrates, Candidate Endangered Species, State Endangered Species, and Species of Special Interest or Concern and their Habitat.

The impacts of the proposed action on wildlife, birds, herpetiles, fish and other species of special interest or concern is discussed in Section 4.12 of the Draft EIS.

8. Actions Taken to Avoid and Minimize Impacts

Impact Avoidance

In accordance with Executive Order 11990, "Protection of Wetlands"; Section 404(b)(1) guidelines and the Interagency Memorandum of Understanding: Management and Mitigation of Highway Construction Impacts to Wetlands in the State of Montana (Montana Interagency Wetlands Group 1992) options to avoid wetlands were examined. Alignment alternatives were examined in Chapter 2 and in Chapter 4 of the Final EIS. Generally, routes to avoid wetlands were eliminated from consideration because they would produce environmental impacts equal to or greater than those associated with the proposed action. Several minor alignment shifts to minimize impacts to wetlands have been incorporated into project design. Additional alignment shifts are possible but they would still impact wetlands. Building a lesser facility would not avoid impacts to wetlands.

Impact Minimization

Because wetlands impacts resulting from the proposed highway reconstruction project can not be totally avoided, the following measures to minimize impacts on wetlands will be implemented with the project:

- Highway designer will use MDT's *Highway Construction Standard Erosion Control Workplan* to identify Best Management Practices (BMPs) for control of erosion and sediment transport. The selection of BMPs will be based on the distance to surface water or wetlands, precipitation intensity, soil properties, slopes, and the presence of critical resources (like threatened or endangered species habitat, prime fisheries, cultural sites, and hazardous materials/wastes).

- A Storm Water Erosion Control Plan, incorporating appropriate BMPs for the proposed construction project, will be developed and approved prior to the construction of the proposed project. The primary objective of the Storm Water Erosion Control Plan will be to minimize the erosion of disturbed areas and prevent the transport of sediments to wetlands or surface waters during the construction and post construction phases of the project.

- All disturbed areas not occupied by project facilities will be promptly revegetated to stabilize soils, minimize erosion, and improve the visual aspects of the project. Interim use of mulch or other erosion control practices may be necessary or recommended at certain locations along the project, such as at new bridge locations.

Measures to minimize other environmental impacts of the proposed action are generally discussed in Chapter 4 of the Final EIS.

9. Compensatory Actions Taken to Mitigate Impacts

Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required. The *Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines* dated February 6, 1990 indicates that first priority be given to compensatory actions (e.g., restoration of existing degraded wetlands or creation of man-made

wetlands) in areas adjacent or contiguous to the discharge site. If on-site compensatory mitigation was not practicable, off-site compensatory mitigation within the general project area should be pursued.

Compensatory Mitigation Within the Highway Right-of-Way

Because impacts to wetlands are unavoidable, measures to provide compensatory mitigation within the right-of-way were examined for the proposed project.

Several sites were identified. These will be explored in more detail in the final design process.

Compensatory Mitigation Outside the Right-of-Way

Wetland mitigation will be done to compensate for all direct wetland impacts. This will be done as close to on-site as possible and will be done to compensate for the lost wetland functions as much as possible. Sites outside the right-of-way which can be considered for wetland mitigation are described in **Section 4.11.3 of the Final EIS**.

10. Monitoring of Mitigative Actions

Standard specifications for wetlands designed as mitigation for impacts due to highway construction call for inspections to occur before, during, and after the replacement wetland is built by the project manager, MDT's wetland biologist, and/or MDT's agronomist. MDT will inspect wetlands constructed as mitigation for impacts during:

- a plan-in-hand visit prior to initiating development of the wetland;
- a visit made prior to the final grading for the wetland;
- the period when the wetland is planted;
- the first full summer after completion of wetland construction to determine the preliminary success of the project; and
- a final inspection in the second full summer following completion of the wetland construction, or other inspection schedules depending on whether the site is a created or enhanced wetland.

Agency reviews required prior to obtaining construction permits will also ensure that any discharges, pumping, or dewatering during construction activities do not degrade surface waters or wetlands.

F. Proposed Disposal Site Determinations

1. Mixing Zone Determination

a. Depth of Water at the Disposal Site

Depth of water within the 28 sites associated with this project varies considerably from 0.0 depth of ephemeral isolated wetlands to +/- 3 meters (10 feet) for the Stillwater and Whitefish Rivers at flowline.

b. Current Velocity, Direction, and Variability at Disposal Sites

Currents and water circulation are discussed in Part III.B.1 of this Evaluation.

c. Degree of Turbulence

Turbulent conditions created by the discharge of fill materials would be minor and occur only during the construction of the project.

d. Water Column Stratification

The project is not likely to introduce sediments into the water that would release contaminants to the water column in sufficient concentrations to produce a degradation of water quality.

e. Discharge Vessell and Speed

This consideration is not applicable to this project.

f. Rate of Discharge

This consideration is not applicable to this project.

g. Ambient Concentration of Constituents of Interest

This consideration is not applicable to this project.

h. Dredged or Fill Material Characteristics

The characteristics of the proposed fill materials are discussed in Part III.D.1. of this Evaluation.

i. Number of Discharges Per Unit of Time

This consideration is not applicable to this project.

j. Other Factors Affecting Rates and Patterns of Mixing

No unusual factors or consequences are expected at any disposal site.

2. An Evaluation of the Appropriate Factors in F(1) Above

The evaluation of the appropriate factors above indicate that the disposal sites and the size of the mixing zones are acceptable.

3. Actions to Minimize Adverse Discharge Effects

All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge. These measures are listed elsewhere in this Evaluation and in Chapter 4 of the Final EIS.

4. Determination of Compliance with Applicable Water Quality Standards

The following section identifies applicable federal water quality standards and indicates whether or not the project would comply with these standards. Compliance with applicable state water quality standards is addressed in IV.C of this evaluation.

Clean Water Act, as amended, (Federal Water Pollution Control Act) 33 USC 1251 et seq. - In compliance. Although Section 404 permit processing has not been initiated, FHWA has already coordinated with the US Army Corps of Engineers and the US Environmental Protection Agency.

These coordination efforts identified the need for an individual 404 permit for discharge activities associated with the project.

Coastal Zone Management Act, as amended, 16 USC 1531, et seq. -- This Act is not applicable because the project area does not involve a coastal zone.

Estuary Protection Act, 16 USC 1221, et seq. -- This Act is not applicable because the project does not involve an estuary.

Federal Water Project Recreation Act, as amended, 16 USC 460-1(12) et seq. -- This act is not applicable because the project is not considered to be a water project.

Fish and Wildlife Coordination Act, as amended, 16 USC 661, et seq. -- In compliance. These Montana Department of Fish, Wildlife and Parks and the US Fish and Wildlife Service were coordinated with and their comments are incorporated into the Final EIS.

Marine Protection, Research, and Sanctuaries Act, 33 USC, 1401, et seq. -- This Act is not applicable because the project does not involve the discharge of materials into the ocean.

Rivers and Harbors Act, 33 USC, 401, et seq. -- This Act is not applicable because the project would not place obstructions in a navigable waterway.

Watershed Protection and Flood Prevention Act, 16 USC 1101, et seq. -- This act is not applicable because the project does not involve the construction of dams in an upstream watershed.

The portion of the Flathead River system affected by the project is not on the National Inventory of Rivers potentially eligible for inclusion in the Wild and Scenic Rivers System. The project does not foreclose the opportunity for additional portions of the Flathead River in the project area to be potentially eligible for future inclusion in the Wild and Scenic Rivers System.

Floodplain Management (Executive Order 11988) -- In compliance. The project would not have significant effects on the floodplain.

Protection of Wetlands (Executive Order 11990) -- In compliance. The project must involve work below the ordinary high water line to accomplish its purpose.

A discussion of the project's compliance with state water quality standards is presented later in this evaluation.

5. Potential Effects on Human Use Characteristics

a. Municipal, Private and Potential Water Supply

Municipal Water Supplies -- Neither the quantity or quality of waters for these municipal water sources would be affected by the project.

Private Water Supply -- Private wells are used for domestic and agricultural purposes throughout and serve the remainder of the residents within the project area. The project would not affect the quality or productivity of these water supplies.

b. Recreational and Commercial Fisheries

The project area does not contain rivers and lakes that support commercial fishing activities, but they do offer some sport fishing. The most common fish species in the project area are west slope cutthroat trout and bull trout, rainbow trout, lake trout and northern pike.

The project could temporarily disrupt habitat used by fish or cause short-term displacements of some fish species, however, no long-lasting adverse impacts on the quality of the project area's recreational fishery are anticipated. Section 4.12, Fisheries and Wildlife of the Final EIS discusses and describes impacts upon fish species and their habitat.

c. Water-Related Recreation

Canoeing is a popular water-related sport, taking place primarily on the Whitefish and Flathead Rivers within the project area. The project would temporarily disrupt some water-related recreational activities requiring some necessary detours during bridge construction.

d. Aesthetics of the Aquatic Ecosystem

The proposed discharges of fill material associated with the highway reconstruction project would not destroy vital elements of the landscape that contribute to the visual distinctiveness and diversity of the area. Therefore, the aesthetics of the aquatic ecosystem will not be adversely affected by the discharge of fill material associated with the project.

e. Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, Refuges/Sanctuaries and Similar Preserves

The impacts of the project and measures proposed as mitigation for the effects on the parks and historic sites are fully discussed in the Final Section 4(f) Evaluation attached to the Final EIS.

G. Determination of Cumulative Effects on the Aquatic Ecosystem

Cumulative effects are the changes in the aquatic ecosystem that are attributable to the collective effects of a number of individual discharges of fill material. Although the impact of a particular discharge may be a minor change in itself, the cumulative effect of many such changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.

According to MDT's records of wetland impacts for Basin I, Northwest Region 4, the following past, present and projected wetland impacts were reported:

Past and present:	0.31 hectares (.78 acres)
Projected:	10.8 hectares (26.69 acres)

It should be noted that Basin I, Northwest Region 4 is a geographic area larger than the project area, however, no data specific to the project area are available. Also, wetlands impacts from this project are not included in the projections since no preferred alternative has been selected.

The effects of the project combined with rapid and sustained residential and commercial growth within the Flathead River valley could contribute to substantial wetland impacts and losses in the region, if such effects were not mitigated. All practicable efforts to avoid and minimize impacts to wetlands will precede any efforts to mitigate impacts. Plans to mitigate impacts on wetlands and other elements of the aquatic ecosystem are required elements of this project.

Highway reconstruction and other activities within or adjacent to wetlands or surface waters presents the potential for spreading noxious weeds. Invasion of wetlands by species like spotted knapweed, Canada thistle, or purple loosestrife is a primary concern. Such species have become established in portions of the Ninepipe National Wildlife Refuge, a large wetlands complex located south of Polson.

H. Determination of Secondary Effects on the Aquatic Ecosystem

Secondary effects are the effects on an aquatic ecosystem that are associated with the discharge of fill materials but do not result form the actual placement of the fill material. The most apparent secondary effect on the aquatic ecosystem is the potential for spills of fuel, oil, hydraulic fluids, or other substances during construction activities and the subsequent use of the facility. Such spills have the potential to degrade water quality and adversely affect all elements of the aquatic ecosystem.

Two spills have been documented in the project area as described in Part IV.D.1.e of this Evaluation. The potential for spills of hazardous substances always exists. There are few, if any, restrictions placed on the use of US 93 by firms transporting hazardous substances by truck.

Secondary impacts on the aquatic ecosystem also occur when minor amounts of road sands and salts enter into the Flathead River system during snow plowing activities during the winter. Snowmelt and stormwater runoff from the highway also transports small amounts of materials that can degrade water quality to adjacent surface waters and wetlands.

Other secondary (indirect) effects of the project are discussed in Chapter 4 of the Final EIS.

IV. Findings of Compliance (Section 230.12)

A. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation

The evaluations contained herein are based on a conceptual design of the project alternatives prepared solely for the purpose of identifying and quantifying the environmental impacts associated with the project. This project must identify a preferred alternative and receive design and location approvals before the project can be advanced to the design stage.

Therefore, this evaluation deviates slightly from the requirements outlined in 230.10 and may not fulfill all the requirements of these guidelines. Some project specific information required for the Section 404(b)(1) evaluation can not be accurately predicted until final design plans are available, however, many of the conclusions offered in this document are not expected to change based on the final design of the proposed facility.

B. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem

1. Alternatives Considered That are Available and Practicable

As described in II.B. of this evaluation, no preferred alternative has been selected. Evaluation of the practicable alternatives is presented in Chapter 2 and Chapter 4 of the Final EIS.

C. Compliance with Applicable State Water Quality Standards

The project would be in compliance with both the Montana Water Quality Act for Section 3(a) authorizations, and the Montana Stream Protection Act (MCA 87-5-501) with the following:

- a 124SPA Stream Protection Act Permit issued by the Montana Department of Health and Environmental Services Water Quality.

The 3(a) authorization is typically issued to the project contractor.

All work would be done in accordance with Section 319 of the Water Quality Act of 1987 (P.L. 100-4). Control of water pollution for both specific and non-point sources would be described in the National Pollutant Discharge Elimination System Permit (P.L. 92-500) for the proposed action. The project would require a Clean Water Act (33 USC 1251-1376) - Section 402/Montana Pollutant Discharge Elimination System (MPDES) Permit from the Montana Department of Health and Environmental Sciences' (MDHES) Water Quality Bureau. The construction of bridge piers requires that an MPDES permit be obtained.

MDHES Water Quality Bureau must certify that any discharges into state waters will comply with certain water quality standards before federal permits or licenses can be granted. The authority for this action comes from Section 401 of the Clean Water Act. The certification must be provided to the Corps of Engineers by MDHES prior to the issuance of a Section 404 permit.

A Storm Water Erosion Control Plan based on the final design of the project would be submitted to the MDHES Water Quality Bureau in compliance with their Montana Pollutant Discharge Elimination System Regulations (ARM 16.20.1314). Best Management Practices would be used in the design of this Plan using guidelines established in MDT's *Highway Construction Standard Erosion Control Workplan*. The objective of the Plan is to minimize erosion of disturbed areas during and following construction.

With careful planning and proper implementation of the erosion control plan, the chance of pollutants or sediments reaching surface waters will be reduced. The plan will be incorporated into the construction plans and specifications for this proposed project. Contractors will be required to strictly adhere to its provisions.

The Montana Department of Natural Resources and Conservation (DNRC) requires that the contractor for the project obtain a temporary water use permit if construction activities (like dust control) use surface water at a rate of over 132 liters (35 gallons) per minute or use over 12,196 cubic meters (10 acre-feet) of ground water.

Evaluation of the discharges relative to Montana Water Quality Standards found in Title 16, Chapter 20, Subchapters 6 and 7 and an assessment of the project's impacts upon the water quality and designated uses of local waterbodies is presented in Section 4.10 Water Resources and Quality of the Final EIS.

D. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 of the Clean Water Act

Section 307 of the Clean Water Act imposes effluent limitations or prohibitions on discharges of materials containing specified toxic pollutants into surface waters. Identified toxic pollutants include aldrin/dieldrin, several DDT compounds, endrin, toxaphene, benzidine, and polychlorinated biphenyls (PCBs).

Neither the project nor activities associated with it would discharge toxic pollutants identified in Section 307 of the Clean Water Act.

E. Compliance With the Endangered Species Act of 1973

The USFWS has reviewed the Biological Assessment (BA) prepared for this project addressing impacts to threatened and endangered species. The USFWS concurs with the determination made in the BA that the proposed project is not likely to adversely affect the endangered bald eagle, the endangered peregrine falcon and the proposed water howellia.

F. Compliance with Specific Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972

This Act is not applicable because the project does not involve the discharge of materials into the ocean.

G. Evaluation of Extent of Degradation of Waters of the United States

1. Significant Adverse Effects on Human Health and Welfare

The project would not adversely affect municipal or private water supplies, recreational or commercial fisheries, plankton, fish, shellfish, or most forms of wildlife.

2. Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent Upon Aquatic Ecosystems

The project would not produce significant adverse effects on the life stages of aquatic organisms or other wildlife dependent upon the aquatic ecosystem.

3. Significant Adverse Effects on Aquatic Ecosystem, Ecosystem Diversity, Productivity and Stability

The project would not produce significant adverse effects on the diversity, productivity or stability of the aquatic ecosystem in the project area.

4. Significant Adverse Effects on Recreational, Aesthetic and Economic Values

The project would not have significant adverse effects on the recreational or economic values of the aquatic ecosystem in the project area.

H. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem

The measures taken to minimize the potential adverse impacts of the proposed discharges on the aquatic ecosystems have been described previously in this Evaluation. These impacts primarily focus on the potential for impacts caused by erosion of disturbed areas and the transport of sediments from the project area to nearby surface waters. These potential impacts will be addressed by employing measures during and after construction that will:

- ensure that the developments associated with this project conform to the natural characteristics of the area;
- limit the area of land disturbed and the amount of time that disturbed areas are exposed;
- stabilize and promptly protect disturbed areas;
- keep runoff velocities low;
- prevent off-site water from entering and running over disturbed areas;
- retain sediments within the project area by filtering runoff as it flows or by detaining runoff for a period that will allow sediment particles to settle out; and
- ensure that erosion control features are functioning as intended and that adjustments or improvements are made if needed to prevent sediments from leaving the project area.

Other specific mitigation commitments proposed for this project are discussed in Chapter 4 of the Final EIS.

I. Conclusion

On the basis of the Guidelines, the proposed disposal sites for the discharge of dredged or fill material is specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem. These conditions are generally described in H above.